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ABSTRACT

This document contains 48 sample lesson plans that practicing teachers of vocational and academic education have developed to train vocational students to think critically and to solve problems. Discussed in the introduction are the following topics: critical thinking, problem solving, and decision making as the building blocks of teaching; sources of problems and decisions; problem-solving techniques; wrong decisions; preplanning with instructional schedules; supervised study; problem-solving lessons from life; and motivation processes. Next, the lesson plans are grouped by the following problem-solving techniques: key-steps situation; forked-road situation; possibilities-factors situation; situation-to-be-improved technique; effect-cause situation; and four-question interest approach. The lesson plans are drawn from a wide range of vocational program areas, including consumer homemaking, animal care, precision machining technologies, agribusiness, horticulture, occupational work adjustment, cosmetology, work and family life, business education, landscape design/management, natural resources, math intervention, and small engines. Each lesson plan includes some/all of the following: program/unit/subunit; name of instructor who developed the plan; competency/terminal performance objective; strategies for related class and/or laboratory instruction; competency builders/pupil performance objectives; integrating academic competencies; required equipment/supplies/resources; schedule; and detailed guidelines for preparing to teach the lesson, presenting the lesson, helping students apply concepts/principles/skills, and evaluating student learning. (MN)

ED 399 351

## LESSON PLANS

# Teaching for Connection:
# Critical Thinking Skills, Problem Solving, and Academic and Occupational Competencies

Lowell E. Hedges

Associate Professor Emeritus
Department of Agricultural Education
The Ohio State University

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## LESSON PLANS

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# FOREWORD

Dr. Lowell E. Hedges is a master teacher. He is also one of America's leading thinkers in the area of problem-solving teaching. Equally important, he is a warm and caring human being who is always willing to help others become all they are capable of becoming with the ability they have been given.

This publication captures Professor Hedges' warmth, positive approach, and keen insight into the nature of teaching and learning. Those who invest the time to master problem solving as explained in this publication will be superior teachers. They will also be better problem solvers themselves.

A most noteworthy feature of this publication is the excellent array of sample lesson plans. They should be most helpful in guiding you to a better understanding of problem-solving teaching. They will also contribute to more permanent learning.

L. H. Newcomb, Associate Dean and Director of Academic Affairs
College of Food, Agricultural, and Environmental Sciences
The Ohio State University
*(formerly Professor in the Department of Agricultural Education)*

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# PREFACE

This publication is mostly about teaching methods. The methods described are those that can effectively assist you, the teacher, in helping students get what they need and/or want in life. These methods are effective because they are built around the following two human behavior traits:

- ☆ People do what they do because they want something they don't have.
- ☆ People do what they do because they have something they don't want.

People want the basics of life: food, shelter, self-esteem, and a sense of belonging and being loved and of feeling safe wherever they may be. They don't want problems that deprive them of these needs or wants. When problems or situations occur that threaten to remove these needs or wants, people are receptive to techniques that will solve the problem or resolve the situation. Often, decisions must be made. People want their decisions to be correct – the kinds that solve the problem or resolve the undesirable situations. People want to make decisions that will help them get what they want and eliminate what they don't want.

The teaching methods explained and illustrated in this publication do just that: help people solve problems and make decisions. They involve many behaviors such as judgment, reasoning, thinking, creativity, manipulative skills, changes in attitude and appreciation, gaining new communication skills, or gaining new understanding.

Natural student impulses are also used in these lessons – suspense, praise, love of possession, curiosity, gregariousness, activity, pride of ownership, competition, and altruism.

The teaching methods explained and illustrated in this publication are effective for teacher and student alike because they permit teaching and learning based on student needs and capacities. Actual student problems and situations are used as the basis of each method/lesson. Also, using these methods, teaching is done on the basis of thinking and understanding, rather than only on memorization of facts. Teaching is carried to the ***doing*** level, where the cause-and-effect relationship is focused and the student discovers meaning in what was learned.

Regardless of how long you have been teaching, you will find that these teaching methods are common sense approaches to helping students learn. They are techniques for solving problems and making decisions that humans use many times a day – from getting up in the morning to going to bed at night. In other words, probably you have already had years of experience in using these teaching methods without realizing it. You are already an expert because you have lived! Enjoy being a teacher!

This publication is designed to help you along the way to adapt these methods to the lives of your students. Study this manual carefully. Refer to it frequently. Use it as a guide in preparing your own lesson plans. Remember, "People do what they do because they want something they don't have." If you want to be able to plan and teach effectively, here is the information that should help you reach that goal.

—— *Lowell E. Hedges*

# ACKNOWLEDGMENTS

I have invested over 42 years of my life in the business of being an educator. I have learned much in this role from trial-and-error, from my students, from other educators, and from just ordinary day-to-day living. What I have learned has found its way into my teaching of young people and adults, consciously or unconsciously. I could not prevent many of these experiences from influencing my teaching.

I have made a conscious effort to incorporate into my teaching the philosophy of the late Dr. Wilbur F. Stewart, Professor Emeritus, Department of Agricultural Education, The Ohio State University. Dr. Stewart believed that the most effective way to teach was to use the "problem-solving" approach. I have practiced that approach in my teaching and have found it very effective in helping students learn. Dr. Stewart's techniques for problem-solving are the following:

1. The Forked-Road Situation
2. The Possibilities-Factors Chart
3. Given a Situation to Be Improved
4. Given an Effect, to Find the Cause or Causes

I have added to this list two other approaches to, or techniques of, problem solving that have proved effective in the teaching of skills, attitudes and understandings:

5. The Four-Question Interest Approach
6. The Key Steps/Points in Solving a Problem

Dr. Ralph E. Woodin, Professor Emeritus, Department of Agricultural Education, The Ohio State University, helped me learn the fifth approach when he supervised my teaching during my first year as a vocational agriculture teacher. The sixth approach or technique I added, as it seems to be a logical way of solving problems.

I have included two basic questions about each of the approaches or techniques: "What is the nature of this problem-solving technique?" and "What are the steps to follow in this (type) of problem-solving procedure?" Much of the credit for these two questions (and answers) goes to Dr. Harlan Ridenour, former Director of Ohio Agricultural Education Curriculum Materials Service and with the State of Ohio Department of Education, Division of Career and Vocational Education. Some of my own philosophy and experiences are also incorporated in the answers.

I appreciate the contribution of Dr. William D. Waidelich, Director, Ohio Agricultural Education Curriculum Materials Service, in programming the lesson plan formats for the computer diskettes. Also, Nicki King did an exemplary job of editing and layout of the manuscript.

Sample lesson plans are included for each of the six techniques. I am indebted to the practicing teachers of vocational and academic education who permitted me to use their lesson plans as examples. The names of these authors are given on both first and second pages of their sample lesson plans and their home schools are given on the second page. Every lesson plan contains the essential ingredients of effective lesson planning and teaching.

——— *Lowell E. Hedges*

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# INTRODUCTION

## Building Blocks of Teaching

The design or approach to lesson planning and teaching described in this publication is a combination of the processes of ***critical thinking, problem solving,*** and ***decision making.*** These building blocks are defined in the following outline:

### A. Critical Thinking

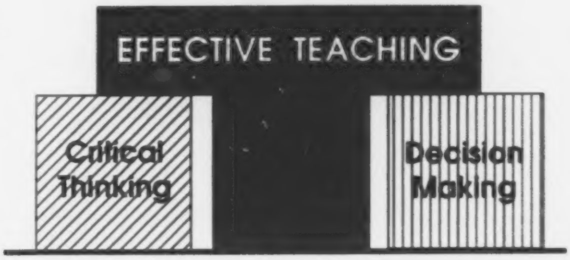
1. The ability to identify and formulate problems as well as the ability to solve them
2. The ability to recognize and use inductive reasoning and to recognize fallacies in reasoning
3. The ability to draw reasonable conclusions from information found in various sources – written, spoken, tabular, or graphic – and to defend one's conclusions rationally
4. The ability to comprehend, develop, and use concepts and generalizations
5. The ability to distinguish between fact and opinion

### B. Problem Solving

1. Recognizing a problem situation
2. Defining the problem
3. Developing hypotheses regarding a solution
4. Testing hypotheses and gathering data
5. Revising hypotheses and testing revised or new hypotheses
6. Forming a conclusion

Simplified, the steps in problem solving are:

1. Problem to be solved
2. Options
3. Best options
4. Solution



### C. Decision Making

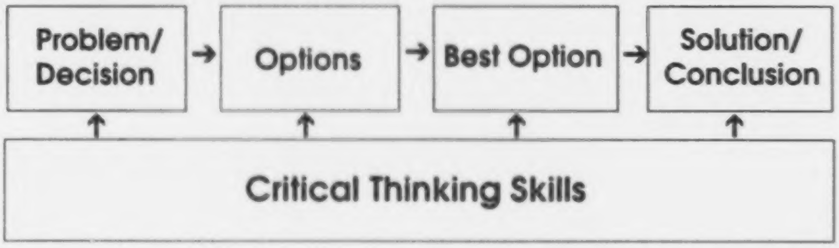
1. Identify the real decision to be made.
2. Form alternatives and gather information relative to them.
3. Evaluate alternatives and decide on the best one.
4. Evaluate the decision and accept responsibility for it.

Simplified, the steps in decision making are:

1. Decision to be made
2. Options
3. Best options
4. Conclusion or decision

A diagram of this approach to lesson planning and teaching, showing the combination of critical thinking, problem solving, and decision making, is shown in Figure 1.

Figure 1



— Swartz and Perkins, 1989

## Critical Thinking Skills – the Foundation for Problem Solving and Decision Making

Each of us, as well as our students, faces the need to solve problems and make decisions in our everyday living and in our present and future occupations. Whether working as an auto mechanic, cosmetologist, or office receptionist, each person will encounter problems that need to be solved. In the process of solving these problems, decisions must be made.

As Figure 1 shows, critical thinking skills provide a foundation for problem solving and decision making. Critical thinking skills are interwoven into both processes. Also, the processes of problem solving and decision making overlap considerably. Decisions are often problematic, while problems require one to make decisions of some kind. Critical thinking skills are used in both processes.

No attempt is made in this publication to do any in-depth explanation and application of the process of critical thinking. At the risk of being too simplistic, only the basic skills are identified and summarized. Brief explanations are then given as to how critical thinking skills are involved in solving problems and making decisions on the job and in everyday living.

Let's examine how critical thinking skills provide a foundation for problem solving and decision making. (Refer back to page IN-1 for the list of critical thinking skills.) The first of these critical thinking skills is **the ability to identify and formulate problems as well as the ability to solve them**. This skill is used in recognizing and formulating the problems and decisions used as the basis of your lessons; e.g., "Which business letter format should I use?" or "What procedures should I follow in sharpening this tool?" or "The engine runs unevenly and produces black exhaust smoke. Why?" or "What procedures should I use in helping my coworker on this task?" On-the-job occupational competencies involve making decisions and solving problems. For you to teach your students effectively the needed occupational skills, attitudes and understandings and how to use them on the job, you also need to help them learn how to solve problems and make decisions. Knowledge about an occupation is not enough in itself; it's what a worker does with the knowledge that's important to the employer. When a student **uses** decision-making and problem-solving on the job, all that you have taught comes together into a meaningful whole.

In the process of solving the problem or making the decision, certain factors are identified, such as cost, safety, convenience, seasonality, client needs, details of the situation, available ingredients, and others. Critical thinking skills 1 and 2 are put to use: the ability to identify and formulate problems as well as the ability to solve them; and **the ability to recognize and use inductive reasoning and to recognize fallacies in reasoning**.

Once we have identified the relevant factors that provide direction for our thinking, information related to each factor must be obtained. At this point, critical thinking skill 5 comes into use: **the ability to distinguish between fact and opinion.**

After identifying the factors to consider in solving the problem or making the decision, the information pertaining to each factor needs to be analyzed and weighed as to relevance, accuracy and importance. At this point, critical thinking skills 2 and 3 are needed: the ability to recognize and use inductive reasoning and to recognize fallacies in reasoning; and **the ability to draw reasonable conclusions from information found in various sources, whether written, spoken, tabular, or graphic, and to defend one's conclusions rationally.**

On the basis of the identified factors to consider and the relevant information gathered for each one, a person arrives at a conclusion: a solution to the problem, or an option to pursue as a decision. At this point, the teacher hopes the student has made the correct decision or solved the problem satisfactorily. But what if the student failed to do so? Where did the student go "wrong" in his or her thinking?

Figure 2 contains some causes of wrong or incorrect conclusions or decisions. These occur because people don't use critical thinking skills effectively. (See page IN-7 for further discussion of wrong decisions.) For example, cause 4, "Incorrect concepts or meanings of words used," would not be a problem if critical thinking skills 2 and 3 were used as well as 4: **the ability to comprehend, develop, and use concepts and generalizations**.

Correct solutions to problems or conclusions in the decision-making process cannot be made if the information obtained concerning the identified factors to consider is not appropriate (accurate, relevant, complete). Figure 3 shows a great variation in the quality of data available for use in solving problems and making decisions. Quality ranges from ***low*** (subjective data, personal in source) to ***high*** (objective data, impersonal in source). Using critical thinking skill number 5, **the ability to distinguish between fact and opinion,** would help us to choose high quality data (fact) over low quality data (opinion) as appropriate information related to factors to consider.

In summary, critical thinking skills are interwoven in both processes – problem solving and decision making. These two processes overlap considerably. Decisions are often problematic, while problems require certain decisions to be made. Problems to be solved and decisions to be made will make up the work day that your students will eventually face. The basic aim of your lesson planning

**Figure 2**

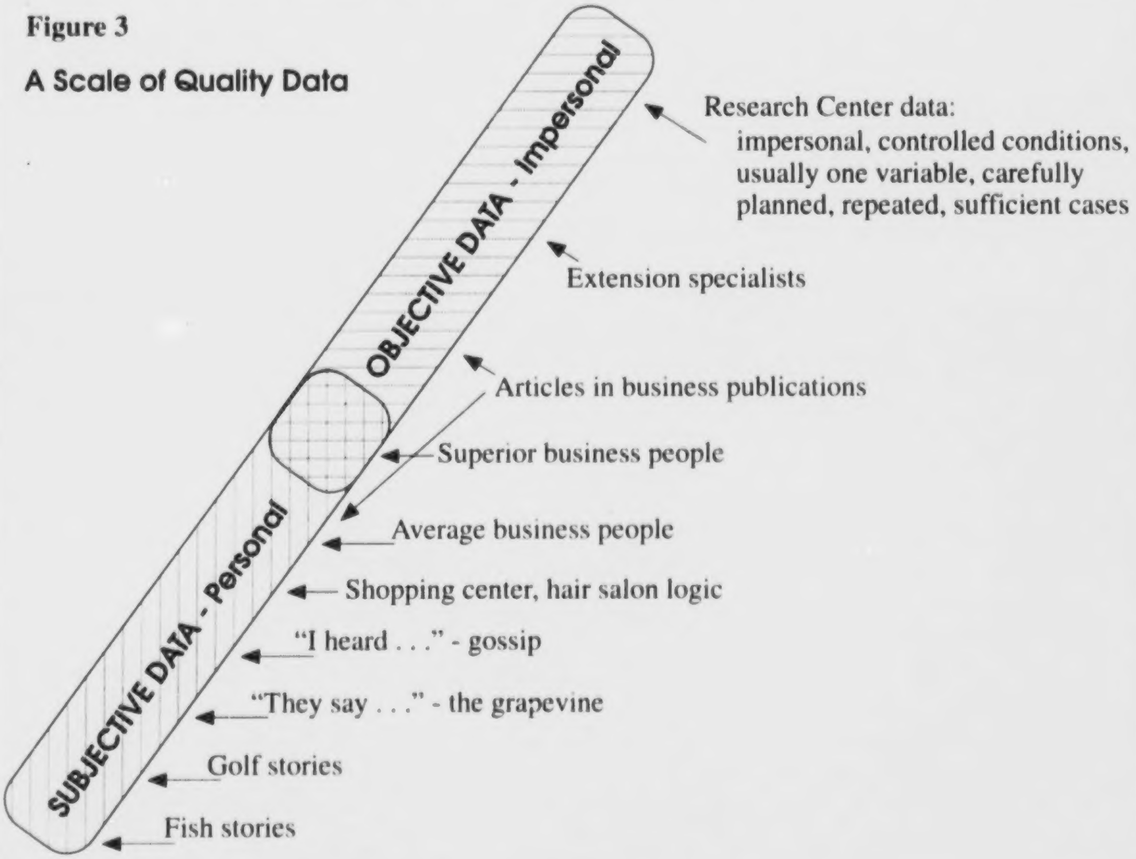
## Causes of Wrong Decisions

1. Lack of knowledge
2. Failure to use known information
3. Incorrect evaluation of the factors or facts – bad judgment
4. Incorrect concepts or meanings of words used
5. Prejudice or refusal to recognize facts
6. Refusal to think – "getting-by" attitude
7. Dependence upon imitation
8. A closed mind or refusal to reconsider a decision when new evidence is presented
9. Use of an exceptional case as the basis for a decision or verifying another's decision
10. Tendency to magnify, distort, or discredit the facts

W.F. Stewart. *Methods of Good Teaching*. Columbus, Ohio: The Ohio State University. 1950, p. 156

**Figure 3**

## A Scale of Quality Data


OBJECTIVE DATA - Impersonal
SUBJECTIVE DATA - Personal
Research Center data:
impersonal, controlled conditions,
usually one variable, carefully
planned, repeated, sufficient cases
Extension specialists
Articles in business publications
Superior business people
Average business people
Shopping center, hair salon logic
"I heard . . ." - gossip
"They say . . ." - the grapevine
Golf stories
Fish stories

Adapted from W.F. Stewart, *Methods of Good Teaching*. Columbus, Ohio: The Ohio State University. 1950, p.152

and teaching should be to prepare them to arrive at correct solutions to problems and to make wise decisions.

The problems to be solved or decisions to be made serve as the basis of your lesson. These can be classified by more specific subtypes of thinking involved in their resolution (Figure 4).

**Figure 4**

**Types of Thinking Involved in Problem-Solving and Decision-Making**

| Type of Thinking | Problems/Decisions |
|---|---|
| 1. Creative | Four-Question |
| 2. Inductive | Effect-Cause<br>Situation-to-Be-Improved |
| 3. Reasoning | Key-Steps |
| 4. Judgment | Forked-Road<br>Possibilities-Factors |

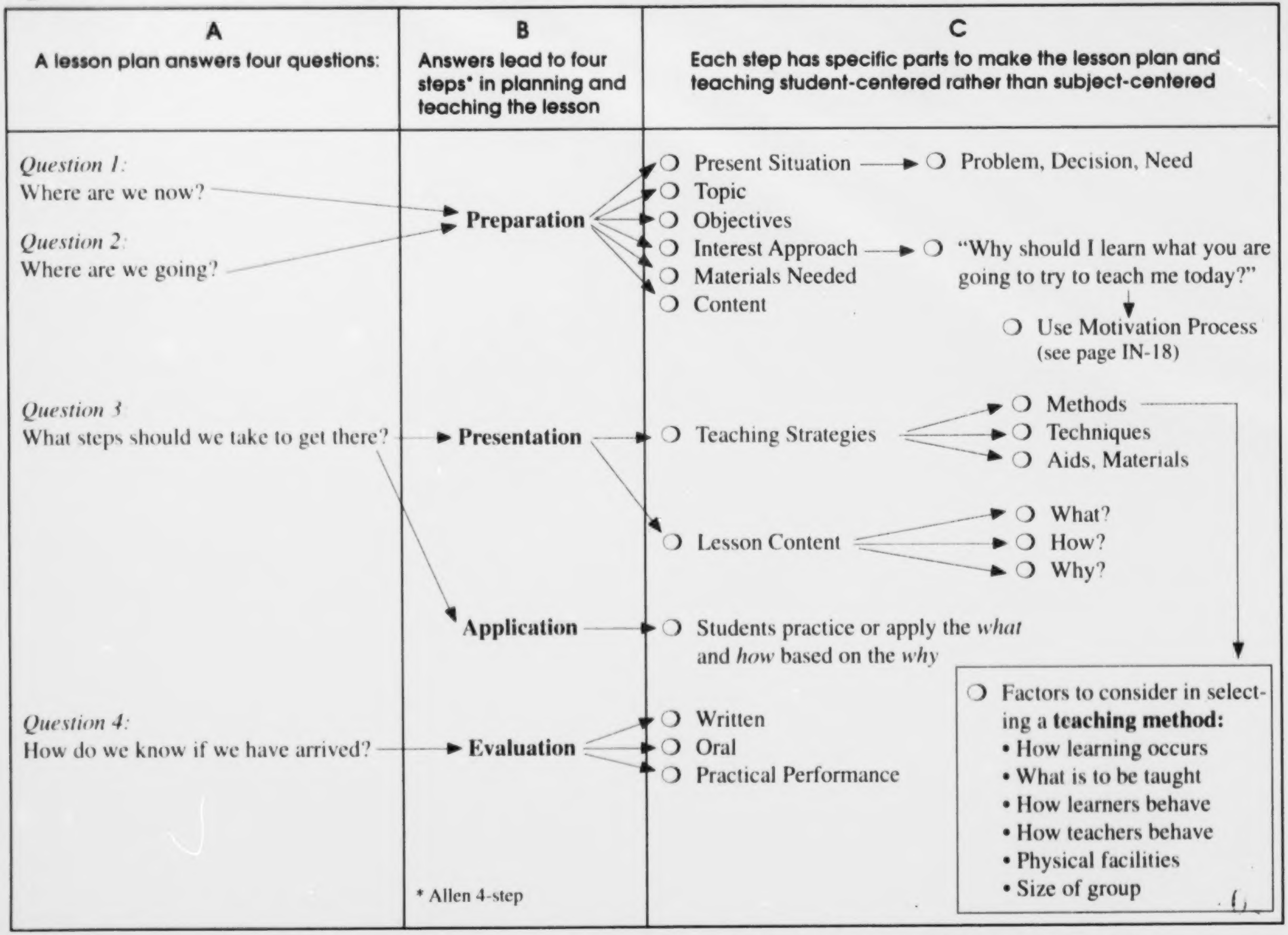
## Sources of Problems and Decisions

If a problem to be solved or a decision to be made is the basis of a lesson plan, what are the sources of these problems and/or decisions? Primarily, they come from student needs – present or anticipated. *Present* needs may originate in the cooperative on-the-job occupational training programs students are enrolled in. *Anticipated* needs originate as competencies and competency builders in your program's course of study. These tasks are the skills, attitudes, and understandings that a student needs in the workplace and in society in general.

Let's develop further the concept that competencies and competency builders in the course of study can be the source of problems and/or decisions around which you develop your lesson plan. *Competency builders* are the basis of the student performance objectives in your lesson plan. Student performance objectives describe what the students are supposed to be able to do at the end of the lesson. These objectives, in turn, can be stated as a creative thinking-type problem or an inductive-, judgment- or reasoning-type problem.

Using the problem-solving approach to lesson planning and teaching helps make our teaching student-centered rather than subject-centered. When the needs of the student are our primary concern rather than the goal of disseminating knowledge, we are student-centered in our thinking and in our teaching practices. A chart showing development of student-centered planning and teaching is given in Figure 5. The student-centered approach starts with the present situation involving the student, i.e., student problems to be solved, decisions to be made, needs to be met. Students quickly develop a feeling of ownership for a lesson when they are actively involved in helping to meet their own occupational and personal needs.

**Figure 5** The Student-Centered Planning/Teaching/Learning Process


A
A lesson plan answers four questions:
B
Answers lead to four steps* in planning and teaching the lesson
C
Each step has specific parts to make the lesson plan and teaching student-centered rather than subject-centered
Question 1:
Where are we now?
Question 2:
Where are we going?
Preparation
Present Situation
Problem, Decision, Need
Topic
Objectives
Interest Approach
"Why should I learn what you are going to try to teach me today?"
Materials Needed
Content
Use Motivation Process (see page IN-18)
Question 3
What steps should we take to get there?
Presentation
Teaching Strategies
Methods
Techniques
Aids, Materials
Lesson Content
What?
How?
Why?
Application
Students practice or apply the what and how based on the why
Factors to consider in selecting a teaching method:
How learning occurs
What is to be taught
How learners behave
How teachers behave
Physical facilities
Size of group
Question 4:
How do we know if we have arrived?
Evaluation
Written
Oral
Practical Performance
* Allen 4-step

Hedges, L.E. *Supervising the Beginning Teacher: An Affirming Approach.* Danville, Illinois: The Interstate Printers & Publishers, Inc., 1989, p. 20

## Problem-Solving Techniques

In Figure 4 we categorized the types of problems and decisions according to the type of thinking involved. We gave each type of problem or decision a name: Four-Question, Key-Steps, Forked-Road, Possibilities-Factors, Situation-to-Be-Improved, and Effect-Cause. Now let's think of these names as "problem-solving techniques" – methods we can use to solve problems or make decisions. The sample lesson plans in this publication are developed around these six techniques.

For each technique I have asked and answered two questions: "What is the nature of this teaching technique or strategy?" and "What are the steps to follow in using ____ in the problem-solving process?" The answers to these two questions provide the basic description of the teaching strategy (problem-solving or decision-making technique) and procedures to follow in using the technique when planning and teaching a lesson. The procedures to follow list and explain each step to include as you plan a lesson. You will need to follow these steps if you want to successfully plan your lesson. They are brief, to the point, and easy to follow. Figure 6 (page IN-9) provides a brief explanation of these six problem-solving techniques. Also, after the Introduction, there is a set of lesson plans that combines all six techniques to show you how they can be interwoven and applied to your teaching situation.

## Contents of Sample Lesson Plans

Following the discussion of each teaching strategy I've included some sample lesson plans prepared by practicing teachers. These samples show you exactly how the lesson plan appears on paper (and on the chalkboard as you develop the lesson with the students). Try to identify the steps in the sample lesson plan as you study the answers to the two questions (nature of the strategy, and steps to follow in using it). Doing so will help you understand the suggested steps. You can also benefit by comparing your written plan with the sample plans. You'll be surprised how soon you will develop expertise in writing lesson plans.

A word of advice: Don't leave out any of the steps or parts of the lesson plan. Keep the plans complete. There are logical reasons for including each part of the recommended plan.

As you study the lesson plans, you will immediately notice such words as *Unit, Subunit, Competency/Terminal Performance Objective,* and *Competency Builders/Pupil Performance Objectives.* This information comes from the *Course of Study* for your program.

The sample plans in this publication use the competency statement as the lesson topic. Selected competency builders are used as the basis of student/pupil performance objectives.

## Wrong Decisions

As you will notice in your reading, each of the six problem-solving or decision-making techniques in lesson planning includes actual decisions to be made by the students. You will soon learn, after your teaching begins, that students don't always make "correct" decisions or determine the best solution to a problem – for several reasons. The main reasons, the most common ones for wrong decisions made, are listed in Figure 2. You may want to add more.

At the end of the lesson, you will be asking the students to propose a solution to the problem discussed, or to make a decision. Have each student write his or her decision on a piece of paper. Then you will know how correct the student's thinking and reasoning is. If a student makes the wrong decision, you the teacher need to determine why – which of the "Causes of Wrong Decisions" was involved.

Consider making a large wall chart of the causes of wrong decisions so you can make easy reference to it as you progress through a lesson.

**Scale of Quality Data** - Several reasons for wrong decisions involve the use (or misuse) of information or data. If information is incorrect or not objective (as compared to subjective), decisions based on this information will also be incorrect or inappropriate for the given situation. As a professional educator, you need to help your students develop an attitude of appreciation for the value and use of objective data or information. There is no place for "hair salon logic" or "They say..." types of thinking when business and personal decisions need to be made. Figure 3, "Scale of Quality Data," will help you guide the students' thinking and reasoning into first testing the value of the information they want to use in making a decision. This chart can also be enlarged and placed on the classroom wall for easy reference during a lesson.

Figure 6

## Explanations of Problem-Solving Techniques Used in Lesson Planning and Teaching

1. **Technique - Key Steps**

   *Explanation:* There are specific steps or operations required, usually in sequence, for development, construction, maintenance, adjustment and/or repair.

   *Example of problem statement:* "What procedures should Rebecca follow in clipping her dog's toenails?"

2. **Technique - Forked-Road**

   *Explanation:* There are two choices for problem solution. The factors involved must be considered: the advantages and disadvantages of each option.

   *Example of problem statement:* "Should Joe put in storm windows or attic insulation with his available money?"

3. **Technique - Possibilities-Factors**

   *Explanation:* There are more than two options for problem solution. Several characteristics/ factors must be considered when selecting the appropriate option.

   *Example of problem statement:* "Which source of supplemental heat should Joe select?"

4. **Technique - Situation-to-Be-Improved**

   *Explanation:* There are certain characteristics of and requirements for the situation. Pertinent information about the student's situation should be made available. Learn the *what* and *why* of the requirements. The class is to make recommendations for improving the situation (if needed).

   *Example of problem statement:* "What changes, if any, should Jane make in her telephone-answering technique?"

5. **Technique - Effect-Cause**

   *Explanation:* Symptoms of the cause or causes are available. Select possible cause or causes and then determine appropriate options for action.

   *Example of problem statement:* "The computer fails to print the document. What could be the cause?"

6. **Technique - Four-Question Interest Approach**

   *Explanation:* Four questions are asked:
   a. How important is _______?
   b. What problems have we had with _____?
   c. What do we need to know or be able to do in order to correct or prevent these problems?
   d. What related information are we lacking?

   *Example of problem statement:* "How important is efficient operation of our small engines?"

# Pre-Planning with an Instructional Schedule

Few teachers can plan and teach lessons without involving other professionals. Activities such as obtaining instructional materials, arranging the use of audiovisual aids, planning for field trips, team-teaching with academic subject teachers – all require the involvement of many people. It seems logical, therefore, that our planning for teaching should include giving these other people as much direction and assistance as possible. Of course, we'll be helping ourselves as well.

The concept of an **Instructional Schedule** provides this direction and assistance. An instructional schedule provides effective pre-planning for a lesson. Thus, the first page of each sample lesson plan contains the instructional schedule for that lesson plan. Also, you will find on the page opposite (page **IN**-11) the general format for this instructional schedule. A template for this format is included on the computer diskette along with the templates for the various problem-solving techniques.

What is an instructional schedule? It is the preliminary planning for teaching selected competency builders of a competency. It precedes the written unit lesson plan. The instructional schedule provides an outline of **who to teach, what to teach, when to teach, how long to teach, how to teach,** and **how to evaluate learning**. The instructional schedule also includes the applied academic competencies that will be used in the lesson.

The instructional schedule is useful to teachers other than occupational teachers. Academic teachers, too, receive assistance in planning their sequenced course outline: **who to teach, what to teach,** and **when to teach**. By studying the instructional schedules of the occupational teacher, the academic teacher can learn what academic competencies the occupational teacher has incorporated in the lesson, as well as the approximate month and week the occupational lesson will be taught. Thus, the academic teacher can plan to teach the applied academic competencies prior to their use in the specific occupational lesson.

## Contents of an Instructional Schedule

The items that make up a basic instructional schedule for a lesson are as follows:

### Step 1. Unit and Subunit

The unit and subunit originate in the Course of Study for your program. (In Ohio, the OCAP – Ohio Competency Analysis Profile – for the program is the occupational task analysis, a term also used in other states. We will use the term *OCAP* throughout this section.) The **unit** and **subunit** are the first two divisions of the lists of occupational tasks. From these major divisions of the OCAP is developed the course content or "scope and sequence" portion of the course of study. (Some teachers refer to the *scope* portion as the *course outline*, and the rearranged course outline according to grade levels and time of year as the *sequenced course outline*.)

Location in lesson plan: ***Section I. Preparing to Teach.***

### Step 2. Competency/Terminal Performance Objective

Competencies are subdivisions of the subunit, or (in some OCAPs, which do not have subunits) subdivisions of the unit. A student performance objective has been written for each competency; it

## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

PROGRAM:
UNIT: ①
SUBUNIT:

**Competency/Terminal Performance Objective** ②

| | | |
|---|---|---|
| **Learning Center** ③ | **Number/ Name** ③ | **Date** ④ |

**Strategies for Related Class and/or Laboratory (Activities, Rotation)** ⑤

| | | | |
|---|---|---|---|
| | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

**Competency Builders/Pupil Performance Objectives** ⑥

**Integrating Academic Competencies** ⑦

Communications

Math

Science

Safety

**Equipment, Supplies, and Other Resources** ⑧

**Evaluation/Performance Assessment** ⑨

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | 10. Other |

is found with the competency statement in the course of study section (sequenced course outline) of the curriculum guide. The selected competency and the terminal performance objective are transferred to the instructional schedule as written.

Location in lesson plan: ***Section I. Preparing to Teach.***

### Step 3. Learning Center Number and/or Name

In this section, list the location(s) where instruction is to take place. You may have specific names for portions of your lab, classrooms, outdoor facilities, or other areas of your school. For example, if sections of your lab are called *Center One, Center Two,* etc., record that. If they are labeled *Woodworking, Metalworking, Small Engines,* etc., record that. Others will know from the instructional schedule where you will teach your lesson.

Location in lesson plan: ***Section I. Preparing to Teach.***

### Step 4. Date of Instruction

You have already made the decisions as to **when to teach** and **how long to teach** the course content. This information is in your sequenced course outline. Copy the weeks designated, such as "October, third week." This information is important to you, but should also be available to academics teachers.

Location in lesson plan (when included): ***Section I. Preparing to Teach,*** *Present Situation.*

### Step 5. Strategies for Related Class and/or Laboratory (Activities, Rotation)

Notice the checklist of instructional strategies in this part of the instructional schedule. It is included for your convenience in identifying teaching methods/techniques to use as you prepare and teach your unit lesson plan.

You may notice, however, that often more explanation is needed than the check-marked items. You may need to explain further how you propose to ensure that each student gets needed teaching/learning time. For example, most vocational programs do not have enough equipment for each student to have his or her "own." Most large or expensive pieces of equipment have to be shared by several students. Therefore, students must be moved around (rotated) among the various pieces of equipment. How will each of *your* students get equal learning time? Explain in this area what procedures you plan to follow, including your lab rotation schedule.

Location in lesson plan: ***Section II. Presenting the Lesson.*** Also sometimes included in ***Section I*** under *Interest Approach* and in ***Section III. Helping Students Apply Concepts/Principles/Skills.***

### Step 6. Competency Builders/Pupil Performance Objectives

Competencies in the OCAPs (Step 2) are subdivided into competency builders. You will need to select certain competency builders (or all of them for a competency) to be the basic content of the lesson. The student performance objectives for these competency builders have already been written and are in the sequenced course outline portion of the course of study.

Location in lesson plan: ***Section I. Preparing to Teach.***

### Step 7. Integrating Academic Competencies

Your students will need to understand and use certain basic math, science, communication, and safety principles and concepts related to the occupational competencies they will be learning. These academic competencies are identified and listed in the appropriate OCAP: Communication, Math, Science, or Safety. For the academic teachers' benefit as well as your own, prepare a student performance objective for each academic competency used in the lesson.

Location in lesson plan in two sections: ***I. Preparing to Teach*** and ***II. Presenting the Lesson.*** In Section II, the academic competencies are inserted in the teaching when first used.

### Step 8. Equipment, Supplies, and Other Resources

For you to be able to teach the occupational competency builders and the academic competencies, certain items like paper, chalkboard, chemicals, references, tools, equipment, etc. will be needed. Identify the items you will need and record them in this section.

Location in lesson plan: ***Section I. Preparing to Teach.***
**Note:** Though the decision as to what equipment, supplies, and other resources are needed is typically made at the **end** of the "thought process," Equipment, Supplies, and Other Resources are included **early** in the written lesson plan for efficient planning.

### Step 9. Evaluation/Performance Assessment

After you have taught the selected competency builders and related academic competencies, you need to know how well the students have learned what you taught. How competent are they in those competencies? Can they perform at the desired level of proficiency indicated in the student performance objectives? You will need to identify and use certain assessment or evaluation techniques. In this section, check the techniques you plan to use. Of course, detailed tests and/or assessment instruments are reserved for your unit lesson plans.

Location in lesson plan: ***Section IV. Evaluating Student Learning.***

# Supervised Study

You must have appropriate and up-to-date information available to the students as they gather facts related to each of the factors they are considering in making a decision. It is up to you to provide a **system** for students to locate and study appropriate information sources. This "system" is called supervised study.

## Q 1 What is the nature of this teaching strategy – supervised study?

1. It is study time supervised and directed by the teacher as to time, place, length, and references used.

2. Supervised study of resource materials is a step in the problem-solving process. The problem has been identified, but the students as a group cannot determine a solution or decision without help from additional sources. Supervised study is used to supplement what students already know and have contributed to the discussion. Students now see a *need* to read, rather than reading just because the teacher gave a reading assignment.

3. Students need relevant, up-to-date information related to certain factors they are considering in solving problems or making decisions.

4. Supervised study is used to locate facts that will be evaluated later and used as the lesson progresses.

5. Sources of information used in the problem-solving process are:
   a. Teacher (but not until all other sources have been exhausted)
   b. Students
   c. Successful entrepreneurs; employees
   d. Resource persons
   e. Newspapers and magazines
   f. Reference books
   g. Government and/or private business bulletins and pamphlets
   h. Other

6. The teacher brings closure to the study period when the needed information has been located and reported. The study period should be no longer than 15 to 20 minutes.

## Q 2 What are the steps to follow in using *supervised study* in the problem-solving process?

1. With the students, identify the knowledge to be gained. This could be options or possible solutions to the problem, additional factors to consider in solving the problem or making the decision, or information related to the factors to consider.

2. Using selected references, make specific reading assignments so the students can locate the required information.

3. Circulate among the students, giving assistance to those who need help the most in finding the needed information.

4. If a reference book is used for supervised study, pinpoint the portions of the book you want the students to read. Don't waste their time letting them browse through the book, trying to find the appropriate material.

5. If you have only one copy of a reference (e.g., magazine article or research bulletin), you may want to give it to a good reader, especially if the reading level of the reference is higher than the class average.

6. At the conclusion of the reading period, discuss the information as it pertains to the problem being solved or decision being made. Have students make pertinent notes of the supplemental information.

7. Apply the newly found information to the problem being solved or decision being made.

# Problem-Solving Lessons from Life

Learning to use the six problem-solving techniques in your lesson planning and teaching should be a fairly easy task for you. Why? Because you have lived long enough to have used these techniques in solving problems and in making decisions many, many times. In fact, every day you use at least some of these techniques several times. You make many decisions from the time you awake in the morning until you fall asleep at night. Using these techniques for solving problems and making decisions is second-nature to you. As a teacher, you will be helping your students develop expertise in what **you** already can do well.

Let's identify some typical uses you make of these problem-solving techniques. Let's begin when you awake in the morning. Immediately, you are faced with a **forked-road** type of decision with two options: "Do I get out of bed or stay in bed?" If you decide to get up, you have another **forked-road** type of decision to make: "Should I go to work or stay home?" In making both these decisions, you consider certain factors. For example, "What will happen if I don't get up now? Will I be late to work? If I decide not to go to work, what consequences will there be? Can I afford to have my pay docked? How much money do I have? What will my fellow workers think of me? How will this affect my relationship with them?" Factors like these are identified and considered when making this type of decision: choosing one of two options.

Suppose you decide to get up at the usual time and go to work. Now you have another **forked-road** type of decision to make: "Will I eat breakfast or skip it today?" If you decide to eat breakfast, you have a **possibilities-factors** type of decision to make, as you probably have *more than two choices or options*. For example, this morning you may have five choices. "Do I want toast and orange juice, or just toast? Which cold cereal should I eat? Or do I want hot oatmeal this morning?" The menu selection is up to you. It depends on your evaluation of all the factors you're considering while making your selection.

What factors? Well, begin with the cold cereal. "Is my favorite kind available?" Maybe you would like to try something different today. "What about making toast and eggs this morning? Are there any eggs in the refrigerator? Is there bread for toast?" Whatever you select for breakfast, you have *more than two alternatives*. As you decide on one, you consider certain conditions or factors in making that decision. "Piece of cake," huh? Sure! You do it every day. As a teacher, you will be helping your students make the same types of decisions with greater expertise than they have in the past.

Now that breakfast is over, you are faced with another **possibilities-factors** type of decision: "What shall I wear? The green outfit or the brown? Maybe gray today? Or, better yet, blue?" Whichever outfit and color you decide to wear, you had to consider first certain preexisting factors. For example: "Which outfit is clean? Is there time to iron this outfit? What did I wear yesterday? the day before? Is today a special day with visitors or meetings?" You consider these things as you decide which clothes to wear.

O.K. You're up; you ate breakfast; you're dressed; and you're ready to drive to work. You get in the car, turn the ignition key, and nothing happens. The engine won't start. "**Now** what'll I do?" You're faced with an **effect, find-the cause** type of situation.

"Why won't this car start?" You consider several possible causes: dead battery, broken starter switch, a broken or loose wire. You search for the cause. "Aha! It's the battery! Dead! Now what?" Obviously, if you are going to get to work in your car, you will have to get the battery jumped using another car's battery.

You are now faced with a **key steps** situation. What are the correct procedures for jumping a battery? You read through the steps recommended by your car's owner's manual. You follow it through the correct steps and successfully start the car. "Finally! I'm on my way to work!"

As you drive to work, you continue to think about your car. "How old is it? How many more years will it last? Can I afford to buy a new one? Doubtful. Maybe I should keep it and fix it up." This is a **forked-road** situation.

You decide to keep you car and refurbish it. It needs a lot of work. At this point, you're faced with a **situation-to-be-improved** type of situation. "Guess I'll keep the car and get some work done on it." This decision using the situation-to-be-improved technique is another example of how you will teach your students to solve problems and make decisions.

So far you have used the following problem-solving techniques – the same ones you will be teaching your students:

Forked-Road Technique
Possibilities-Factors Technique
Effect-Cause Technique
Key-Steps Technique
Situation-to-Be-Improved Technique

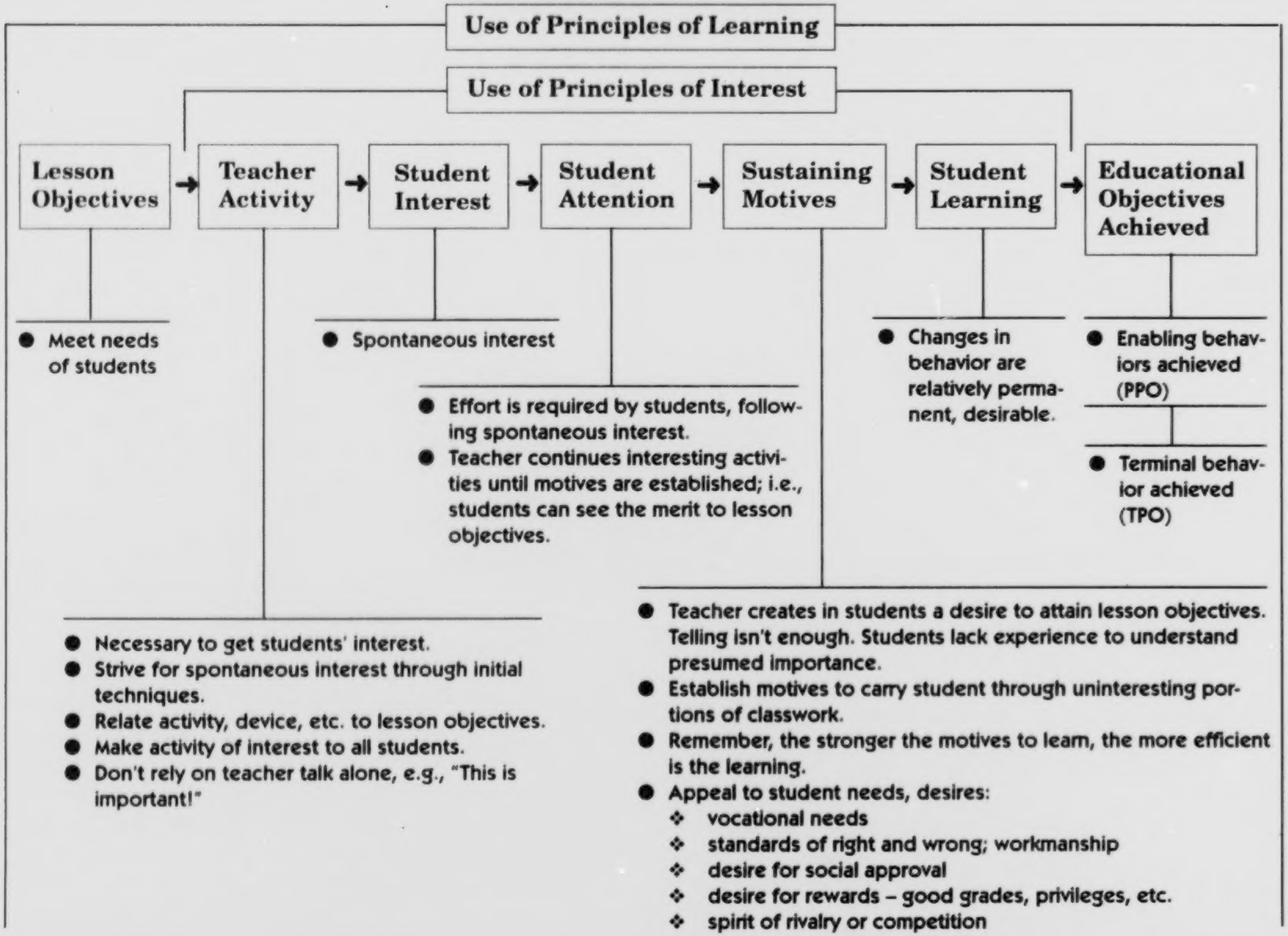
There is one final technique that uses a combination of the first five techniques: the **four-question** technique or approach. Sometimes students must make multiple decisions to solve a problem. This book provides the details you will need to teach your students how to make these decisions. Using the four-question approach, they will make use of several techniques in sequence. Several sample lesson plans are included to help with the explanation.

By now I hope you are aware that lesson planning should be based on the needs of your students, whether those needs are personal or job-related. Also that planning a lesson involves primarily the use of common, everyday thinking and reasoning skills. You can easily handle lesson planning for your teaching if you use the same problem-solving and decision-making techniques that you use every day. Lesson planning is not a new skill for you if you use these techniques. You will be doing what comes naturally in a person's thinking. Your students, however, who have not had the life experience you have, need help in developing expertise in making decisions and solving problems. Your job is to teach them how to develop this. It's a fun job and a very important job. You're working with their minds. Don't take your responsibility lightly.

You'll learn how to use the problem-solving and decision-making skills if you follow the suggestions given in the chapters that follow.

Figure 7

## MOTIVATION PROCESS


Use of Principles of Learning
Use of Principles of Interest
Lesson Objectives
Teacher Activity
Student Interest
Student Attention
Sustaining Motives
Student Learning
Educational Objectives Achieved

**Lesson Objectives**

- Meet needs of students

**Student Interest**

- Spontaneous interest

**Student Attention**

- Effort is required by students, following spontaneous interest.
- Teacher continues interesting activities until motives are established; i.e., students can see the merit to lesson objectives.

**Student Learning**

- Changes in behavior are relatively permanent, desirable.

**Educational Objectives Achieved**

- Enabling behaviors achieved (PPO)
- Terminal behavior achieved (TPO)

**Teacher Activity**

- Necessary to get students' interest.
- Strive for spontaneous interest through initial techniques.
- Relate activity, device, etc. to lesson objectives.
- Make activity of interest to all students.
- Don't rely on teacher talk alone, e.g., "This is important!"

**Sustaining Motives**

- Teacher creates in students a desire to attain lesson objectives. Telling isn't enough. Students lack experience to understand presumed importance.
- Establish motives to carry student through uninteresting portions of classwork.
- Remember, the stronger the motives to learn, the more efficient is the learning.
- Appeal to student needs, desires:
  - ❖ vocational needs
  - ❖ standards of right and wrong; workmanship
  - ❖ desire for social approval
  - ❖ desire for rewards – good grades, privileges, etc.
  - ❖ spirit of rivalry or competition

## Summary

Before we close our discussion of the problem-solving approach to lesson planning and teaching, refer back to Figure 5. Column C explains how to make your teaching **student-centered** rather than subject-centered. An effective way to remind yourself to focus on the student instead of the subject is to provide an answer every class period to the student's question, "Why should I learn what you're going to try to teach me today?" This is especially pertinent at the beginning of a new topic.

If students understand *why* they need to learn what you're attempting to teach them, they will give you their attention as you teach the lesson. As stated earlier, people do what they do for ***two reasons:*** *they want something they don't have, or they have something they don't want.* If you can focus on one or both of these reasons in your lesson planning and teaching, you will probably capture the students' interest and attention for the lesson. In other words, first identify the needs of your students; then plan and teach to meet those needs.

You read earlier in this publication that selected competency builders are used as the basis of student (pupil) performance objectives (page IN-12). These objectives (teaching for the listed student performance) guide the content of the lesson; i.e., we plan and teach so that students will develop the desired competency level for the identified task or performance. These competencies/competency builders are in reality what the students need as they prepare for the world of work. The lesson objectives, therefore, meet the needs of the students. In this way you are giving the students *"something they don't have."* So they should be better **motivated** to learn what you want to teach.

On the page opposite is a chart illustrating this motivation process (Figure 7). It reads from left to right: from lesson objectives that meet students' needs to achieving educational objectives (pupil performance and terminal performance objectives).

By now you understand how using the problem-solving approach (teaching method) to lesson planning and teaching meets the needs of the student better than any other teaching method. The problem-solving approach helps motivate students to learn what you want to teach them.

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## Technique 1: Key-Steps Situation

**Q 1** What is the nature of this problem-solving technique?

Answer: This technique involves showing or demonstrating the step-by-step procedure to follow when performing a specific job.

**Q 2** What are the steps to follow in presenting the **key steps** or demonstration technique?

PREPARING TO GIVE THE DEMONSTRATION

1. Get ready to instruct learners.
   a. Select suitable jobs.
   b. Set up objectives for teaching.
2. Break down the job.
   a. Select important steps.
   b. Pick out key points.
   c. Select information associated with the steps.
3. Think through how to give a demonstration to determine –
   a. how you will prepare the learner.
   b. how you will teach the learner.
   c. what questions you will ask during each step.
   d. how you will try the learner out.
   e. how you will follow up on the learner.
4. Have in readiness:
   a. Proper tools, equipment, and materials
   b. A work place for comfort and efficiency

GIVING THE DEMONSTRATION

Step 1. Prepare the learner.
   a. Put learner at ease.
   b. Find out what learner knows about the job.
   c. Explain importance of job.
   d. Get learner interested in learning the job.
   e. Place learner in correct position to observe the job.

Step 2. Teach learner the job.
   a. Tell, show, illustrate, explain, and question carefully and patiently.
   b. Take one step at a time.
   c. Stress key points.

Step 2 *(continued)*

- d. Present information associated with and related to job.
- e. Emphasize safety factors.

Step 3. Try learner out.

- a. Have learner do the job. Guide, if necessary.
- b. Have learner do the job again, explaining steps, key points, and safety factors.
- c. Ask questions and prevent errors.
- d. Repeat until you know that the learner knows.

Step 4. Follow up on learner.

- a. Put learner to work.
- b. Check often. Encourage questions.
- c. Tell learner where to get help.
- d. Explain what to do in an emergency.

### ADDITIONAL TIPS

An effective demonstration should take no longer than about 15 minutes. During the practice period, be aware of the activities of each member of the class. As students work individually, move quickly from one student to another. Periodically, stand at a location where you can observe the entire group of students. In this way, you can provide effective supervision, and the students will be able to come to you for help. If several students are having difficulty in learning a skill, repeat the demonstration. Students who have mastered the skill can assist you with those who have not.

### SAMPLE CHALKBOARD FORMAT

| **Define the Problem** | **Key Steps** |
|---|---|
| **"What procedures should we follow in ________?"** | |
| **What to Do** | **How to Do It** |
| 1. ________ | 1. ________ |
| 2. ________ | 2. ________ |
| 3. ________ | 3. ________ |

①

## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Consumer Homemaking**
UNIT: X - Family Nutrition
SUBUNIT: X.2 - Meal Preparation

**D. Hedges**
Instructor

### Competency/Terminal Performance Objective

X.2.1 Prepare breakfast when given a menu, necessary recipes and ingredients, equipment, and the number of people to be served. All items on the performance assessment should receive an acceptable rating.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom; lab - kitchens | **Number/ Name** | Demo-kitchen | **Date** | Oct., week 3 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

Initial discussion concerning the first three questions in the **Four-Question** interest technique will take place in the related classroom. The **Key-Steps** portion, or demonstration, will be given by the teacher in the lab. The students will be grouped in teams of three per learning center (kitchen). The groups will make biscuits after the teacher completes the demonstration lesson.

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

X.2.1.6 Make biscuits when given a recipe, necessary ingredients and equipment, and the number of people to be served. All items on the performance assessment should receive a *yes* rating.

### Integrating Academic Competencies

Communications: 1.0.2, 2.0.3, 3.0.1
Math: 2.6.2, 2.6.3
Science: 15
Safety: 1, 2, 12

### Equipment, Supplies, and Other Resources

1. baking ingredients as specified in recipe – enough for all learning centers
2. measuring and mixing equipment – bowls, spoons, cups, spatula, rolling pin, Foley fork – in each center
3. baking pans in each center
4. copies of recipe and skill sheet for each student, plus one for each center
5. a properly functioning stove in each learning center
6. cleaning supplies in each learning center

*(continued)*

**SCHEDULE** *(continued)*

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| X | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Elgin High School**
**Consumer Homemaking**

| **Key Steps**<br>(Problem-Solving Technique) | **Donna M. Hedges**<br>(Instructor) |
|---|---|

## I. Preparing to Teach

UNIT: X - Family Nutrition
SUBUNIT: X.2 - Meal Preparation

**Competency/Terminal Performance Objective**

X.2.1 Prepare breakfast when given a menu, necessary recipes and ingredients, equipment, and the number of people to be served. All items on the performance assessment should receive an acceptable rating.

**Competency Builders/Pupil Performance Objectives**

X.2.1.6 Make biscuits when given a recipe, necessary ingredients and equipment, and the number of people to be served. All items on the performance assessment should receive a *yes* rating.

**Integrating Academic Competencies**

Communications:

| | | |
|---|---|---|
| Reading | 1.0.2 | Select and use appropriate reference sources and illustrative materials when given an assignment. Selection and use should assist in completing the assignment accurately. |
| Writing | 2.0.3 | Record observations when presented data. Data recorded should be 100% accurate. |
| Listening | 3.0.1 | Demonstrate effective listening skills when given verbal directions. Actions should be 100% correct. |

Math - Measurement:

2.6.2 Compute using appropriate units of measurement when reading and using the given recipe. Calculations should be 100% accurate.

2.6.3 Read scale on measurement device(s) to nearest mark and make interpolations where appropriate when using the measuring cups and spoons for wet and dry ingredients. Readings should be 100% accurate.

Science:

15 Explain the effects of chemicals when in contact with moisture and with human and animal tissues when using recipe ingredients. Explanation should correlate with principles studied in class.

Safety:

1 Prevent cuts and abrasions from tools and equipment when mixing ingredients. No cuts or abrasions should occur.

2 Prevent burns from fire, hot cooking utensils, hot metal, or other sources of heat while preparing the biscuits. No burns should occur.

12 Prevent damage to tools, equipment, and building facilities while preparing biscuits. No damage should occur.

*(continued)*

## Lesson Outline *(continued)*

### Equipment, Supplies, and Other Resources

1. baking ingredients as specified in recipe – enough for all learning centers
2. measuring and mixing equipment – bowls, spoons, cups, spatula, rolling pin, Foley fork – in each center
3. baking pans in each center
4. copies of recipe and skill sheet for each student, plus one for each center
5. a properly functioning stove in each learning center
6. cleaning supplies in each learning center

### Present Situation

This is a class of 18 ninth-grade students enrolled in the Consumer Homemaking program. Most are experienced in preparing simple snacks such as sandwiches, hot chocolate, cold and hot cereal, and similar items. Several have baked cookies. No student has prepared baking powder biscuits. This is the first class lesson in preparing a baked item "from scratch.".

### Interest Approach

(Place questions and student responses on chalkboard.)

**Q 1.** How important is it to you and perhaps to your family to know how to prepare food "from scratch"?

(Possible student responses)

a. We may not be able to buy what we want to eat, already prepared and available in the store.
b. It's less expensive to make things from scratch. Prepared food costs a lot more than food you make yourself.
c. I like to cook. Creating something gives me a good feeling.
d. Sometimes in our family if you want to eat, you've got to fix it yourself.

**Q 2.** What problems have **you** had when you tried to cook? When you've observed someone else making something from scratch, such as cookies, how did they get along? What problems did they have?

(Possible student responses)

a. I had trouble following the recipe. I didn't know what some of the directions meant. The cookies came out looking like sheets of paper.
b. I thought I had all the ingredients I needed, but when I started putting things together, I didn't have brown sugar. I substituted white, and I don't think the cookies tasted as good.
c. My mom doesn't have measuring spoons; she just guesses. Sometimes her stuff doesn't taste right. Maybe her measuring is too far off.
d. The last time I tried to fix oatmeal for breakfast I forgot the salt. Blah!
e. My older sister thinks she can cook. She always burns the cookies or whatever she's making. Last time I gave my cookie to the dog when no one was looking.

**Lesson Outline** *(continued)*

**Interest Approach** *(continued)*

**Q 3.** If we're going to correct or prevent the problems you just identified, what do we need to know or be able to do?

(Possible student responses)

a. Know how to read a recipe correctly.
b. Have all the ingredients we need before we start to cook.
c. Know how to measure accurately and what to measure with. My mom says, "Laurie, the recipe doesn't say *about* or *almost*. It says exactly how much."
d. Know how to set the oven so the food doesn't burn; know when to take it out of the oven.
e. What equipment will we need to follow a specific recipe?
f. Do we use a mixer, or can we use our hands?
g. I think we ought to know what ingredients we'll need to buy at the store if we're going to cook "from scratch."
h. How will I recognize the ingredients the recipe calls for when I look in our cupboards or the storeroom?

"To give us some practice in making something 'from scratch,' I thought you might like to make biscuits. We call them baking powder biscuits. I'll give you each a copy of the recipe we will be using. We will go over the recipe and check to see if you understand the terms and words, such as the items we'll be using. Then, I'd like you to check your learning centers. See if you have all the necessary ingredients, equipment, and anything else you will need. Tomorrow, when we have more time, we will make the biscuits. I will demonstrate how to prepare them; then you can make your own in your learning center."

## II. Presenting the Lesson

**Define the Problem**

**Key Steps**

**Q 4. "What procedures should we follow in making baking powder biscuits?"**

(Ask the students to give suggested steps verbally and the step sequence in the process of making biscuits. Give the students copies of both the recipe and the skill sheet (pages **T I** - 10-11). Then start the demonstration. As you proceed, they should be able to determine how accurate their reasoning skills were.)

| What to Do | How to Do It |
|---|---|
| 1. Preheat oven (Communications 1.0.2, 2.0.3, 3.0.1) | 1. Oven heat setting 450° F |
| 2. Assemble equipment | 2. 1-cup dry measure; 1/4-cup dry measure; 1 baking sheet; 1 medium mixing bowl; 1 large flour sifter; 1 set dry measuring spoons; 1-cup liquid measuring cup; 1 Foley fork or pastry blender; 1 straight-edge spatula; 1 large mixing spoon; rolling pin (optional) |
| 3. Assemble ingredients | 3. All-purpose flour; baking powder; salt; solid shortening (at room temperature); milk (at room temperature) |
| 4. Sift flour; measure (Measurement 2.6.2, 2.6.3; Safety 1, 12) | 4. Sift more than 2 cups of flour. Measure flour by spooning sifted flour into dry measuring cup. Level flour with straight-edge spatula. Place 2 cups of measured flour in flour sifter placed in medium mixing bowl. |
| 5. Measure remaining dry ingredients. | 5. Measure and level off remaining dry ingredients in dry measuring spoons. Add these ingredients to flour in sifter. Sift all together into the mixing bowl. |
| 6. Cut in shortening | 6. Rinse the 1/4-cup dry measuring cup in water for use with shortening. (Water provides film on inside of cup so shortening will come out easily.) Pack solid shortening into measuring cup. Use pastry blender or Foley fork to cut solid shortening (at room temperature) into dry ingredients. |
| 7. Stir in milk (Science 15) | 7. Use Foley fork or a mixing spoon to stir dough quickly and to moisten dry ingredients. |
| 8. Knead dough | 8. Place ball of dough on lightly-floured baking sheet; gently knead dough for about 30 seconds or 12-15 times. |

*(continued)*

**Define the Problem - Key Steps** - *page 2*

| What to Do | How to Do It |
|---|---|
| 9. Roll or pat out dough | 9. Flour fingers or rolling pin. Lightly pat or roll dough into 1/2-inch-thick rectangle. |
| 10. Cut biscuits (Safety 1) | 10. Use a sharp cutter that is lightly floured. (Timesaving tip: Use sharp knife to cut biscuits into squares. Square biscuits taste the same as round ones.) |
| 11 Arrange biscuits on baking sheet | 11. Separate cut biscuits on same baking sheet used to knead and pat out biscuits. Remove excess flour if necessary; (it will burn on baking sheet.) |
| 12. Bake (Safety 2) | 12. Place baking sheet in center of oven preheated to 450° for 10-12 minutes. Finished product should be golden brown and raised to about 1 inch. |
| 13. Remove from oven (Safety 2) | 13. Turn off oven. Remove biscuits using a hot pad to protect hands from heat. Do **not** use a towel. It could brush against heat source and burst into flames. |
| 14. Cool | 14. Place baking sheet on cooling rack. Biscuits are best served hot with butter and honey or jam. Allow baking sheet to cool completely before placing in dishwater to prevent warping. |

## III. Helping Students Apply Concepts/Principles/Skills

The application of the skill of making biscuits, plus the application of the academic competencies, will take place mostly during lab time when students make the biscuits in their learning centers.

## IV. Evaluating Student Learning

Use the attached performance test (pages **T 1** - 12-13) to evaluate the process and product of each student's activity. Give all students a copy of the performance test beforehand so that they know exactly what is expected of them on the test. If students in a learning center do not achieve a *yes* rating on each item, have them try again to make biscuits. Give a written quiz at the end of the unit.

FIRST
PRIZE

## BISCUIT RECIPE

2 cups sifted all-purpose flour
3 tsp baking powder
1 tsp salt
1/4 cup shortening (solid)
3/4 cup milk (2% or higher)

1. Sift measured dry ingredients together.
2. Cut shortening into the dry ingredients.
3. Stir liquid into the dry ingredients until they are moistened.
4. Round up on lightly floured baking sheet. Knead lightly (for about 30 seconds).
5. Roll or pat out to about 1/2 inch thick. Cut.
6. Place on ungreased baking sheet. Bake till golden brown.
7. Serve piping hot with butter and jelly, jam, honey, or syrup.

**Temperature:** 450° F (hot oven)
**Time:** Bake 10 to 12 minutes
**Yield:** 20 1 3/4-inch biscuits (1" high)

## SKILL SHEET for MAKING BISCUITS

**Directions**: Here are the steps you should follow in making baking powder biscuits. Use the supplies and equipment in your assigned kitchen.
**Note of caution:** STOP* when you have completed step 13 and let me know. I will check your progress before you go on to step 14.

1. Wash hands.
2. Set oven at 450° F. Turn on.
3. Remember to keep work area organized and neat during preparation.
4. Assemble necessary equipment items.
5. Assemble necessary ingredients.
6. Measure ingredients, using proper equipment and techniques as demonstrated by the teacher.
7. Sift measured dry ingredients together.
8. Cut shortening into dry ingredients.
9. Stir liquid into dry ingredients until they are moistened.
10. Round up on lightly floured surface; knead 10-12 times.
11. Roll or pat out to about 1/2 inch thick.
12. Cut biscuits with sharp biscuit cutter or knife.
13. Arrange cut biscuits on lightly-floured (ungreased) baking sheet.

*

14. Bake biscuits in 450° preheated oven for recommended time.
15. Return supplies to assigned locations.
16. Clean work area and all equipment; return to proper places.
17. Remove from oven at recommended time. Let pan and biscuits cool.
18. Continue cleanup as necessary. Cool pan before washing.

# PERFORMANCE TEST FOR MAKING BISCUITS

**Directions:** Using the supplies and equipment provided, you will prepare in the learning center baking powder biscuits using the recipe and skill sheet from your own class notebook. While other students are being evaluated, organize and prepare your notebook for teacher evaluation. Also, you might want to review your notes in preparation for a written quiz.

| PROCESS | Yes | No |
|---|---|---|
| 1. Were hands washed? | _____ | _____ |
| 2. Was the necessary equipment assembled? | _____ | _____ |
| 3. Were necessary ingredients assembled? | _____ | _____ |
| 4. Were ingredients measured using proper equipment and techniques? | _____ | _____ |
| 5. Were measured dry ingredients sifted together? | _____ | _____ |
| 6. Was shortening cut into the dry ingredients? | _____ | _____ |
| 7. Was liquid stirred into the dry ingredients only until ingredients were moistened? | _____ | _____ |
| 8. Was dough kneaded 10-12 times on a floured surface? | _____ | _____ |
| 9. Were biscuits cut with a sharp biscuit cutter or knife? | _____ | _____ |
| 10. Were cut biscuits arranged on lightly-floured baking sheet? | _____ | _____ |
| 11. Were biscuits baked in a 450° preheated oven for the recommended time? | _____ | _____ |
| 12. Was the work area organized and kept neat during preparation? | _____ | _____ |
| 13. Was the work area cleaned and all equipment cleaned and returned to the proper place on completion of the test? | _____ | _____ |
| 14. Were all supplies returned to assigned locations? | _____ | _____ |

*(continued)*

STUDENT ____________________________________

**PERFORMANCE TEST** *(continued)*

| PRODUCT | Yes | No |
|---|---|---|
| 1. Is the biscuit shape uniform with straight sides and level tops? | ____ | ____ |
| 2. Is the finished size approximately double the size of the unbaked biscuits? | ____ | ____ |
| 3. Is the color uniform golden brown, free from yellow or brown spots? | ____ | ____ |
| 4. Is the crust tender and free of excess flour? | ____ | ____ |
| 5. Is the inside free from yellow or brown spots? | ____ | ____ |
| 6. Is the inside flaky, pulling off in thin sheets? | ____ | ____ |
| 7. Is the texture tender and slightly moist? | ____ | ____ |
| 8. Is the flavor pleasing? | ____ | ____ |

STUDENT ________________________________________

SCORE (number of *yes* answers)

Process: ________/14 Product: ________/8

Attempt: 1 2 3 4

② **INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY**

**PROGRAM:** **Animal Care**
**UNIT:** 5 - Clinical/Laboratory
**SUBUNIT:** 5.2 - Using and Maintaining Equipment

**P. Collins**
Instructor

**Competency/Terminal Performance Objective**

5.2.4 Use a (given) microscope when given a specimen to identify. All items on the performance assessment must be rated acceptable. Items will include carrying a microscope, placing a slide on a microscope, focusing a microscope, identifying specimen provided by the teacher, and preparing a microscope for storage.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | School lab | **Number/ Name** | | **Date** | Oct., one day |

**Strategies for Related Class and/or Laboratory (Activities, Rotation)**

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

**Competency Builders/Pupil Performance Objectives**

5.2.4.1 Carry a (given) microscope from storage to working area without damage.
5.2.4.2 Place a (given) slide on a microscope without damaging slide or microscope.
5.2.4.3 Focus a (given) microscope according to product guidelines.
5.2.4.4 Identify (correctly) a specimen provided by the teacher.
5.2.4.5 Prepare a (given) microscope for storage. Performance checklist must have all items rated satisfactory.

**Integrating Academic Competencies**

| | |
|---|---|
| Communications: | 2.0.3, 3.0.1 |
| Math: | N/A |
| Science: | N/A |
| Safety: | 12 |

**Equipment, Supplies, and Other Resources**

- compound microscopes
- prepared slides
- handout of microscope diagram

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | X | 9. Written report(s) |
| | 5. Written unit test | | |

**Toledo Ag. Ed. Center**
**Animal Care**

| **Key Steps**<br>(Problem-Solving Technique) | **Penny Collins**<br>(Instructor) |
|---|---|

## I. Preparing to Teach

UNIT: 5 - Clinical Laboratory
SUBUNIT: 5.2 - Using and Maintaining Equipment

### Competency/Terminal Performance Objective

5.2.4 Use a (given) microscope when given a specimen to identify. All items on the performance assessment must be rated acceptable. Items will include carrying a microscope, placing a slide on a microscope, focusing a microscope, identifying specimen provided by the teacher, and preparing a microscope for storage.

### Competency Builders/Pupil Performance Objectives

5.2.4.1 Carry a (given) microscope from storage to working area without damage.
5.2.4.2 Place a (given) slide on a microscope without damaging slide or microscope.
5.2.4.3 Focus a (given) microscope according to product guidelines.
5.2.4.4 Identify (correctly) a specimen provided by the teacher.
5.2.4.5 Prepare a (given) microscope for storage. Performance checklist must have all items rated satisfactory.

### Integrating Academic Competencies

Communications:

| | | |
|---|---|---|
| Writing | 2.0.3 | Record observations. |
| Listening | 3.0.1 | Demonstrate effective listening skills. |

Math: N/A
Science: N/A
Safety: 12 Prevent damage to tools, equipment, and building facilities.

### Equipment, Supplies, and Other Resources

- compound microscopes
- prepared slides
- handout of microscope diagram

### Present Situation

This is a class of 25 Junior Animal Care students. A few students have used microscopes in other science classes. Most of them have had very little experience with microscopes.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

**Q 1.** How many of you have operated a compound microscope?

**Q 2.** In what circumstances did you use a microscope?

**Q 3.** What could animal care personnel do with a microscope?

(Possible student responses)

1. Check for parasite infestation.
   a. Skin scrapings for mites
   b. Fecal samples for worm eggs
   c. Blood samples for heartworm microfilaria

2. Do blood work.
   a. White blood cell count
   b. Red blood cell count

**Q 4.** Why is it important to operate the microscope carefully and correctly?

(Possible student responses)

1. Microscopes are expensive. I wouldn't want to have to pay for one.
2. The lenses are fragile. Could get damaged very easily.
3. We couldn't find what's in the specimen slide if we didn't do things right.

"Let's take some time to go over procedures in handling and operating a microscope. We want to prevent any damage (which can easily occur) and be able to locate and identify objects on the specimen slide.

"Some of you said you have already had some experience in using a microscope. Would you share the specific procedures you remember in using a microscope and how a user should protect a microscope? We know a microscope is expensive." (Make notes of student contributions on the chalkboard.)

"OK, thank you for sharing. Now I'd like to build on what these class members have shared with us, so we can all learn the correct procedures for using a microscope. As I demonstrate these procedures, you may want to take notes on the key steps you will need to follow. I'll put these steps on the chalkboard."

## II. Presenting the Lesson

**Define the Problem** **Key Steps**

"Let's start at the beginning when you first go to get the microscope from the cabinet. **What procedures should you follow?"**

| What to Do | How to Do It |
|---|---|
| 1. Pick up microscope and transfer to lab station. | 1. Use two hands – one hand firmly gripping arm of microscope, the other supporting base of microscope. Now, let's look at the sheet that has the diagram of the microscope and get acquainted with other parts of the microscope. (Point out the part, say the name, and have students write down the correct name on their handout.) |
| 2. Turn microscope on. | 2. Remove dust cover, unwrap and plug in cord, turn on light switch. |
| 3. Make sure the stage is turned down all the way. | 3. Rotate coarse adjustment knob down. |
| 4. Make sure lens is on lowest objective. | 4. Rotate nosepiece and click into position. |
| 5. Place slide on stage. | 5. Secure slide under clips with specimen centered. |
| 6. Focus. | 6. Look into ocular, rotate coarse adjustment to move body tube up. Rotate fine adjustment to "fine tune" the view. |
| 7. Adjust lighting | 7. Rotate diaphragm to desired light level. (Less light is needed for low power; more light needed for high powers and thick specimens.) |
| 8. Change to higher magnification. | 8. Rotate nosepiece to next highest magnification and click into place. Rotate fine adjustment to "fine tune" view if needed.<br>NEVER rotate coarse adjustment to refocus at higher magnifications.<br>NEVER use high power on thick specimens. |
| 9. Prepare to put microscope away. | 9. Rotate nosepiece and click into position. |
| 10. Turn stage down all the way. | 10. Rotate coarse adjustment. |
| 11. Turn microscope off. | 11. Turn off light switch, unplug and wrap cord. Replace dust cover. |
| 12. Transfer microscope to cabinet. | 12. Use two hands – one hand firmly gripping arm of microscope, the other supporting base of microscope. |

## III. Helping Students Apply Concepts/Principles/Skills

Have the students, working in pairs, examine a slide with the letter "e". Ask them all to draw what they see in the field of view at various magnifications. Also, make available for the students to view slides containing hair samples, blood samples, parasites, or various body tissues.

## IV. Evaluating Student Learning

Have students turn in their "field of view" drawings for a grade. Give them a brief quiz covering microscope handling and operation.

# QUIZ

## Performance Assessment for Using the Microscope

Please use short phrases or sentences to answer the following questions.

1. Describe the location/position of the hands (both left and right) while properly carrying a microscope.

2. In what two situations will more light be required for viewing?

3. Which objective must you use when you begin viewing a specimen?

4. Where should the stage be before and after viewing?

5. On which objective should your microscope be positioned before you put it in the cabinet?

6. What part of the microscope do you rotate to adjust the lighting?

7. When should you use the fine adjustment?

8. In what two situations should you **not** use the coarse adjustment?

9. What procedures should you use to secure a slide on the stage?

10. What procedures should you use to protect a microscope in storage?

STUDENT ______________________________________

## Checklist for Storing Microscope

| | | Yes | No |
|---|---|---|---|
| 1. | Was the nosepiece rotated and clicked into position? | ____ | ____ |
| 2. | Was the stage turned down all the way? | ____ | ____ |
| 3. | Was the microscope turned off by using the light switch? | ____ | ____ |
| 4. | Was the light cord unplugged and wrapped? | ____ | ____ |
| 5. | Was the dust cover replaced? | ____ | ____ |
| 6. | Were both hands used to carry the microscope to the cabinet? | ____ | ____ |
| 7. | Was one hand used to firmly grip the arm of the microscope? | ____ | ____ |
| 8. | Was the other hand used to support the base of the microscope? | ____ | ____ |
| 9. | Was the microscope placed in the assigned location? | ____ | ____ |
| | TOTALS | ____ | ____ |

STUDENT ______________________________

Date ______________________________

Number of attempts ________

## ③ INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Precision Machining Technologies**
**UNIT:** 1 - Orientation
**SUBUNIT:** N/A

**J. Cooke**
Instructor

### Competency/Terminal Performance Objective

1.0.1 Use and care for personal safety equipment at all times while in the lab setting in accordance with OSHA specifications.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | School lab | **Number/ Name** | Room 121; Lab | **Date** | Sept., week 1 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

Students will be given safety handouts to read. The class will identify the key points of the handout during the presentation of the lesson plan. The class will then view a safety film and discuss this material to reinforce the lesson being taught. Group discussions with a question and answer period will follow. The instructor will demonstrate safety practices and care of safety equipment. Students will be given a written test; score of 100% is required.

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | X | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | X | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

1.0.1.1 Wear eye, ear, and respiratory protection according to OSHA specifications while working in the lab.
1.0.1.2 Wear proper hand and foot protection according to OSHA specifications while working in the lab.
1.0.1.3 Wear appropriate clothing according to OSHA specifications while working in the lab.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.5, 2.0.9, 3.0.1, 4.0.3 |
| Math: | N/A |
| Science: | 9 |
| Safety: | 1 |

### Equipment, Supplies, and Other Resources

- safety film *(Safety in the Machine Shop)*
- safety handouts: S-2 and S-3
- pencil & paper
- safety test (General Shop Safety)

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | X | 7. Peer evaluation |
| X | 3. Instructor observation | X | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

| **Hayes Technical Vocational School<br>Precision Machining Technologies** | |
|---|---|
| **Key Steps**<br>(Problem-Solving Technique) | **Jack Cooke**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 1 - Orientation
SUBUNIT: N/A

## Competency/Terminal Performance Objective

1.0.1 Use and care for personal safety equipment at all times while in the lab setting in accordance with OSHA specifications.

## Competency Builders/Pupil Performance Objectives

1.0.1.1 Wear eye, ear, and respiratory protection according to OSHA specifications while working in the lab.
1.0.1.2 Wear proper hand and foot protection according to OSHA specifications while working in the lab.
1.0.1.3 Wear appropriate clothing according to OSHA specifications while working in the lab.

## Integrating Academic Competencies

Communications:

1.0.5 Identify details such as who, what, why, where, when, or how.
2.0.9 Write legibly when completing safety test. Legibility must be 100% because the completed safety test is documented information.
3.0.1 Demonstrate effective listening skills when viewing safety films.
**Safety test must be completed (passed) with 100% accuracy.**
4.0.3 Participate in class discussions after viewing safety films and reading safety handouts to clarify and restate material covered.

Math: N/A
Science: 9 Explain the principles of simple machines used in a typical lab and their possible safety hazards.
Safety: 1 Prevent cuts and abrasions from tools and equipment.

## Equipment, Supplies, and Other Resources

- safety film *(Safety in the Machine Shop)*
- safety handouts: S-2 and S-3
- pencil & paper
- safety test (General Shop Safety)

## Present Situation

The class consists of 17 students. Most of them have had some safety training in previous courses.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

**Q 1.** What does OSHA mean to you?

1. A safety committee
2. Ohio Safety and Health Administration

"Let me help you. The letters 'OSHA' stand for Occupational Safety and Health Administration. It is a Federal program."

**Q 2.** Why do you think safety is important to you while working in a lab situation?

1. To keep you from getting hurt
2. To protect coworkers
3. To protect your eyes
4. To keep you from slipping or falling

**Q 3.** Who is responsible for safety?

1. The teacher
2. The shop supervisor
3. I am (the student)
4. Everyone

## II. Presenting the Lesson

**Define the Problem** **Key Steps**

**"Identify the proper and safe clothing, etc. to be worn in the laboratory at all times."**

| What to Do | How to Do It |
|---|---|
| 1. Safety handouts<br>(Reading 1.0.5) | 1. Pass out safety handouts; have students read silently. |
| 2. Identify proper eye protection.<br>(Speaking 4.0.3) | 2. a. Eye protection must be worn at all times in the lab.<br>b. Prescription glasses must be OSHA-approved.<br>c. Approved safety goggles may be worn over non-safety prescription glasses.<br>d. Wear face shield when working with chemicals or hot molten metal, or when operating a power hand grinder.<br>e. Wear OSHA-approved safety glasses (non-prescription) when no other eye protection is being worn. |
| 3. Identify proper ear protection. | 3. Wear ear plugs when necessary to avoid loud or shrill noises. |
| 4. Identify proper respiratory protection. | 4. Wear proper respiratory protection in accordance with OSHA specifications when working in situations where the air may be contaminated. |
| 5. Hazardous labels<br>(Reading 1.0.5) | 5. Read hazardous labels accompanying chemicals and work materials. Federal law requires labels for all hazardous materials. |
| 6. Hand and foot gear | 6. Wear gloves only when working with chemicals or heat-treating operations, and when carrying materials. **Never** wear gloves around revolving equipment. |
| 7. Clothing/Jewelry | 7. a. Wear work shirt made of close woven, smooth material that is also close-fitting. Tuck shirt into pants and roll sleeves up above elbows to prevent snagging. **(No sweaters or baggy clothing!)**<br>b. Wear work pants that are similar to work shirts in quality.<br>c. Keep long hair tied back or worn in hair net.<br>d. No ties, necklaces, rings, watches, etc. may be worn in the shop. |
| 8. Care of safety equipment | 8. Students are responsible for store safety. |
| 9. Safety film<br>(Listening 3.0.1,<br>Speaking 4.0.3) | 9. View and discuss safety film. |

## III. Helping Students Apply Concepts/Principles/Skills

In the summer prior to the beginning of the school year, send all students a letter informing them that they are responsible for buying their own safety work shoes. Tell them to bring them to the laboratory the first day of school.

When the students arrive, issue safety glasses, hair nets, and other necessary safety equipment. Inform them that they are required to dress appropriately and wear the proper safety equipment daily while in the lab.

Emphasize that the students must follow safety rules at all times while working in the lab. Along with the assigned student safety supervisor of the week, make frequent visual checks for safety violations.
(Safety 1)

## IV. Evaluating Student Learning

Give written safety test (General Shop Safety).

Inform students that if they have NO safety violations on a given day, they will be automatically awarded 10% of their possible daily score that day.

After the first week of school, handle safety violations in the following manner:

**First** violation: Give verbal warning.
**Second** violation: Put a written warning in the student's file.
**Third** and **consecutive** violations: Deduct 10 points from the student's daily grade for each violation. Take disciplinary action, if necessary, depending on severity and frequency of the violations.

④

## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

| | | |
|---|---|---|
| **PROGRAM:** | **Agribusiness** | **B. Wixtead**<br>Instructor |
| **UNIT:** | X - Personal Finances | |
| **SUBUNIT:** | X.X - Banking in Agricultural Business | |

### Competency/Terminal Performance Objective

X.X.X Make a simulated bank deposit when given necessary materials such as deposit slips, checks and cash. Procedures studied in class will be followed and recorded in the student notebook.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | | **Date** | Sept., week 1, 1 day |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | X | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

- Complete a deposit slip accurately – one of the type commonly used by local banks.
- Deposit checks and cash accurately in a simulated banking transaction when given checks, cash and completed deposit slips.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 2.0.9, 2.0.10, 2.0.14<br>3.0.1, 3.0.3, 3.0.6, 3.0.7<br>4.0.3, 4.0.12 |
| Math: | 1.6.2, 1.6.7 |
| Science: | N/A |
| Safety: | N/A |

### Equipment, Supplies, and Other Resources

- at least 21 sample deposit slips and checks
- one overhead projector
- transparency of a deposit slip
- transparency of a check

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Tri-Rivers Career Center**
**Agribusiness Program**

| | |
|---|---|
| **Key Steps**<br>(Problem-Solving Technique) | **Bill Wixtead**<br>(Instructor) |

# I. Preparing to Teach

UNIT: X - Personal Finances
SUBUNIT: X.X - Banking in Agricultural Business

**Competency/Terminal Performance Objective**

X.X.X Make a simulated bank deposit when given necessary materials such as deposit slips, checks and cash. Procedures studied in class will be followed and recorded in the student notebook.

**Competency Builders/Pupil Performance Objectives**

- Complete a deposit slip accurately – one of the type commonly used by local banks.
- Deposit checks and cash accurately in a simulated banking transaction when given checks, cash and completed deposit slips.

**Integrating Academic Competencies**

Communications:

| | | |
|---|---|---|
| Writing: | 2.0.9 | Write legibly. |
| | 2.0.10 | Organize facts, details, and examples in logical order. |
| | 2.0.14 | Use correct spelling. |
| Listening: | 3.0.1 | Demonstrate effective listening skills. |
| | 3.0.3 | Communicate appropriately with coworkers, clients, and supervisors. |
| | 3.0.6 | Follow directions. |
| | 3.0.7 | Evaluate spoken communications. |
| Speaking: | 4.0.3 | Participate in discussions. |
| | 4.0.12 | Use appropriate language. |

Math: 1.6.2 Compute and solve problems involving integers, fractions, decimals, and percentages using order of operations.
1.6.7 Translate written and/or verbal statements into mathematical expressions.

Science and Safety: N/A

**Equipment, Supplies, and Other Resources**

- at least 21 sample deposit slips and checks
- one overhead projector
- transparency of a deposit slip
- transparency of a check

**Present Situation**

This is a class of Seniors with various degrees of understanding the mechanics of handling personal finances. Many have savings accounts in local banks. Several have checking accounts.

**Lesson Outline** *(continued)*

**Interest Approach**

"How many of you have made a bank deposit yourself?"

"Does this form look familiar?" (Project transparency of deposit slip on screen.)

"Why is it important for you to fill out a deposit slip properly?"

(Possible student responses)

1. To make sure the bank doesn't balance my checking account incorrectly.
2. To make sure no one withdraws money from my account except me.
3. So I can know how much money I have in the bank.

"So that you will be able to fill out a deposit slip of your own properly, let's first determine the correct procedures. Then we'll practice on some sample slips."

(Distribute sample deposit slips and checks.)

## II. Presenting the Lesson

**Define the Problem**

**Key Steps**

**"What procedures should we follow in making a bank deposit?"**

(Place the steps and key points on the transparency while students help to identify the procedures. Students should write the figures on their sample deposit slips as you move along.)

| What to Do | How to Do It |
|---|---|
| 1. Write the date that you will make the deposit: month, day and year. | 1. Upper left hand corner marked #1. Write: September 23, 1998. |
| 2. Deposit cash. | 2. List total amount in cash row. Total row and net deposit row. Marked #2. |
| 3. Deposit one or several checks. | 3. Look at the ABA number on the front of the check. Take the top number and write it in 3A, then write in the amount of the check. |
| 4. Keep a portion of the check out in cash. | 4. List the checks in the check column. List the amount you receive in cash in the "Less cash received" row. Subtract this amount when figuring your net deposit. |
| 5. Deposit both cash and checks. | 5. List cash in the cash row. List checks in the check column. Add everything up in the net deposit row. |

## III. Helping Students Apply Concepts/Principles/Skills

Give each student an exercise to complete on writing checks and depositing money.

## IV. Evaluating Student Learning

Guide the students through the step-by-step procedure in evaluating the checks they wrote and the deposit slips they made. Collect the student handouts (checks and deposit slips) and evaluate them for accuracy.

⑤ **INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY**

**PROGRAM:** **Horticulture**
**UNIT:** X - Landscape
**SUBUNIT:** X.X - Maintaining the Landscape

**E. Boyer**
Instructor

**Competency/Terminal Performance Objective**

X.X.X Operate and maintain equipment when given the commonly used tools and equipment in the landscaping business. Tools and equipment will be operated and maintained according to the manufacturer's specifications.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Outdoors lab | **Number/ Name** | Arboretum | **Date** | Aug., week 2, one day |

**Strategies for Related Class and/or Laboratory (Activities, Rotation)**

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

**Competency Builders/Pupil Performance Objectives**

X.X.X.1 Use a (given) hand-held pressurized sprayer according to the owner's manual.

**Integrating Academic Competencies**

Communications:
Reading: 1.0.2, 1.0.4, 1.0.5, 1.0.6, 1.0.7, 1.0.11
Writing: 2.0.9, 2.0.14
Listening: 3.0.1, 3.0.3, 3.0.6, 3.0.7
Speaking: 4.0.3, 4.0.12
Math: 2.6.3
Science: 12
Safety: 3, 6, 12

**Equipment, Supplies, and Other Resources**

- hand-held sprayer
- rubber gloves
- safety glasses
- long-sleeved shirt or other type of wearing apparel

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

## Eastland Career Center
## Horticulture

| | |
|---|---|
| **Key Steps**<br>(Problem-Solving Technique) | **Eric Boyer**<br>(Instructor) |

# I. Preparing to Teach

UNIT: X - Landscape
SUBUNIT: X.X - Maintaining the Landscape

### Competency/Terminal Performance Objective

X.X.X Operate and maintain equipment when given the commonly used tools and equipment in the landscaping business. Tools and equipment will be operated and maintained according to the manufacturer's specifications.

### Competency Builders/Pupil Performance Objectives

X.X.X.1 Use a (given) hand-held pressurized sprayer according to the owner's manual.

### Integrating Academic Competencies

Communications:

| | | |
|---|---|---|
| Reading: | 1.0.2 | Select and use appropriate reference sources and illustrative materials. |
| | 1.0.4 | Determine solutions to problems. |
| | 1.0.5 | Identify details such as who, what, why, where, when, or how |
| | 1.0.6 | Make predictions about information. |
| | 1.0.7 | Cite details that support or do not support predictions. |
| | 1.0.11 | Differentiate facts and opinions. |
| Writing: | 2.0.9 | Write legibly. |
| | 2.0.14 | Use correct spelling. |
| Listening: | 3.0.1 | Demonstrate effective listening skills. |
| | 3.0.3 | Communicate appropriately with coworkers, clients, and supervisors. |
| | 3.0.6 | Follow directions. |
| | 3.0.7 | Evaluate spoken communications. |
| Speaking: | 4.0.3 | Participate in discussions. |
| | 4.0.12 | Use appropriate language. |
| Math: | 2.6.3 | Read scale on measurement device(s) to nearest mark and make interpolations where appropriate. |
| Science: | 12 | Explain the effects of fluids under pressure. |
| Safety: | 3 | Prevent lung and eye damage. |
| | 6 | Prevent conditions causing chemical contamination of the environment. |
| | 12 | Prevent damage to tools, equipment, building facilities, etc. |

### Equipment, Supplies, and Other Resources

- hand-held sprayer
- rubber gloves
- safety glasses
- long-sleeved shirt or other type of wearing apparel

**Lesson Outline** *(continued)*

**Present Situation**

This is a class of 15 Junior Horticulture students. They have had no experience in the use of a sprayer. They have had instruction and testing (to 100% accuracy) on pesticide safety.

**Interest Approach**

"How many of you have had to spray something in your landscape, such as shrub, grass, flowers?"

"Have any of you used this kind of sprayer?" (Hold up the pressurized hand-held sprayer.)

"What could landscape workers be required to do with a sprayer of this type? Anything in addition to the experiences you've shared?"

(Possible student responses)

1. Spray weed killer (herbicide).
2. Kill insects (insecticide).
3. Apply anti-transpirant.

"You must be able to use a sprayer of this type properly and safely. So let's go over the key steps in its use. I'm going to demonstrate the correct procedures to you. I'll also put on the chalkboard the key steps we are going to follow. You may want to take notes as we go."

## II. Presenting the Lesson

**Define the Problem** **Key Steps**

(Start at the point when you first pick up the sprayer from the tool room.)

**"What are the steps in using a hand-held sprayer?"**

| What to Do | How to Do It |
|---|---|
| 1. Observe all safety rules. | 1. Put on safety glasses, long sleeves, gloves. |
| 2. Pick up sprayer and carry it to your mixing site. | 2. Use the strap, not the handle. |
| 3. Check sprayer for residue. | 3. Shake to check for liquid. Check for odor by lightly waving hand over opening. Dispose of properly if found. |
| 4. Clean tank. (Pressurize tank.) | 4. Fill with water and empty. Fill with water again, pressurize and then empty. (Cleans wand.) |
| 5. Put liquid and chemical in tank. | 5. Use only approved measuring container. Rinse into tank twice. |
| 6. Pressurize tank. | 6. Screw lid on tank. Pump handle. |
| 7. Release pressure. | 7. Squeeze handle. Keep low and close to what you are spraying. |
| 8. Adjust nozzle spray pattern. | 8. Adjust pattern by turning nozzle in or out. |
| 9. Clean sprayer. (Release pressure first.) | 9. Release by pulling valve out. Repeat steps 4, 6 & 7. |
| 10. Clean up. | 10. Replace product measuring device, sprayer, and safety equipment in proper location. |

## III. Helping Students Apply Concepts/Principles/Skills

During the related class period, have students take turns completing the steps just demonstrated. Follow this with a lab in which plants will be treated according to their specific needs.

## IV. Evaluating Student Learning

Give the students a written quiz covering proper spraying techniques and safety practices. Evaluate the students for proper sequence of steps and correct performance as they follow the steps in the related classroom.

# ⑥ INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Occupational Work Adjustment**
**UNIT:** 5 - Employability Skills
**SUBUNIT:** N/A

**J. Harlow**
Instructor

## Competency/Terminal Performance Objective

5.0.4 Demonstrate interviewing skills when placed in a role-playing situation centering on a mock interview. All items on the performance assessment should receive an acceptable rating.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | | **Date** | October |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | X | 7. Resource person(s) |
| X | 2. Lecture | X | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | X | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

5.0.4.2 Demonstrate interviewing etiquette when placed in a role-playing situation centering on a mock interview. All items on performance assessment should receive an acceptable rating.
5.0.4.3 Demonstrate oral communication skills when placed in a role-playing situation centering on a mock interview. All items on performance assessment should receive an acceptable rating.
5.0.4.4 Demonstrate appropriate question and answer techniques when placed in a role-playing situation centering on a mock interview. All items on the assessment should receive an acceptable rating.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 2.0.3, 3.0.1, 3.0.3, 3.0.11, 4.0.2, 4.0.5, 4.0.12 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

## Equipment, Supplies, and Other Resources

- video camera, VCR, and TV
- pencil & paper
- chalkboard & chalk
- handout: "Common Mistakes in Interviewing"
- video: *Job Interview*

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | X | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Franklin Heights High School**
**Occupational Work Adjustment**

| | |
|---|---|
| **Key Steps**<br>(Problem-Solving Technique) | **Joe Harlow**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 5 - Employability Skills
SUBUNIT: N/A

**Competency/Terminal Performance Objective**

5.0.4 Demonstrate interviewing skills when placed in a role-playing situation centering on a mock interview. All items on the performance assessment should receive an acceptable rating.

**Competency Builders/Pupil Performance Objectives**

5.0.4.2 Demonstrate interviewing etiquette when placed in a role-playing situation centering on a mock interview. All items on performance assessment should receive an acceptable rating.
5.0.4.3 Demonstrate oral communication skills when placed in a role-playing situation centering on a mock interview. All items on performance assessment should receive an acceptable rating.
5.0.4.4 Demonstrate appropriate question and answer techniques when placed in a role-playing situation centering on a mock interview. All items on the assessment should receive an acceptable rating.

**Integrating Academic Competencies**

Communications:
2.0.3 Record observations.
3.0.1 Demonstrate effective listening skills.
3.0.3 Communicate appropriately with coworkers, clients, and supervisors.
3.0.11 Evaluate nonverbal messages.
4.0.2 Use nonverbal messages.
4.0.5 Participate in dramatic presentations.
4.0.12 Use appropriate language.
Math: N/A
Science: N/A
Safety: N/A

**Equipment, Supplies, and Other Resources**

- video camera, VCR, and TV
- pencil & paper
- chalkboard & chalk
- handout: "Common Mistakes in Interviewing"
- video: *Job Interview*

**Lesson Outline** *(continued)*

**Present Situation**

This is an Occupational Work Adjustment class of fifteen 14- to 15-year-olds. As part of their class requirements, they are asked to seek and gain employment. An interview process is an integral part of the working experience. For nearly all of the class, this will be a first-time experience.

**Interest Approach**

(Place questions and student responses on chalkboard.)

"All of you have a prospective job station in mind. Let's assume that you have secured an interview for this job. What features of the interview do you think will worry you the most?"

(Possible student responses)

1. What should I wear? I'm going to worry how I look.
2. What kinds of questions am I likely to be asked?
3. Can I chew gum or smoke?
4. Is it okay for me to ask questions?
5. I know I'll be nervous. How do I handle that?
6. Do we ***have*** to do this?

"These are all possible and logical concerns; (yes, you do ***have*** to do this!) Let's first examine the key steps in preparing for a mock interview. Then, as you have the interview, we'll videotape it and view it next week."

## II. Presenting the Lesson

**Define the Problem**

**Key Steps**

**"What procedures should we follow in preparing for, and participating in, a job interview?"**

| What to Do | How to Do It |
|---|---|
| 1. Decide on appropriate dress. | 1. Be sure your clothes fit the situation. (More detailed study will be done for this step.) |
| 2. Check appearance and hygiene. | 2. Bathe or shower. Apply deodorant. Make sure hair is cut, combed or tied back. |
| 3. Monitor body language/ nonverbal communication skills. | 3. Stand or sit in an upright position; (when sitting, lean toward interviewer.) Keep hands in lap or folded together. Make eye contact. |
| 4. Be aware of etiquette. | 4. Shake hands and introduce yourself. Sit only when and if you are invited. Remove gum before the interview. No smoking. Speak clearly and strongly. |
| 5. Anticipate questions. | 5. With a partner, write four questions each that might be asked by an interviewer. Make value judgments as to the worth of the questions. For example, do they require only "yes/no" answers? Practice answering each other's questions. |
| 6. Avoid nervousness. | 6. Practice the interview. Videotape a mock interview. Evaluate yourself. |

## III. Helping Students Apply Concepts/Principles/Skills

Have each student, working with a partner, prepare for a mock interview. The key steps should be the major focus of the students. Bring in a guest interviewer. Have the interview videotaped for future critique by you and the students.

## IV. Evaluating Student Learning

Evaluate each videotaped interview with the students, using a checklist. As you do so, the student will have to demonstrate awareness of the key steps in preparing for and participating in a job interview.

Give a written quiz over the job interviewing skills as part of the employability skills unit.

⑦

# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

| | | |
|---|---|---|
| **PROGRAM:** | **Cosmetology** | **L. Hollingsworth**<br>Instructor |
| UNIT: | 10 - Hair Coloring | |
| SUBUNIT: | N/A | |

## Competency/Terminal Performance Objective

10.0.1 Prepare client for hair color treatment in the salon by:

1. consultation.
2. educating client in daily care.
3. administering predisposition test.
4. selecting hair color formula.
5. applying strand test.
6. analyzing hair and scalp.
7. practicing safety.
8. completing a release statement and client record.

All procedures must be those given in an approved cosmetology textbook.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Cosmetology lab | **Number/ Name** | Room 114 | **Date** | Sept. - week 1,<br>Jan. - week 4 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | X | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

10.0.1.9 Drape client for specific hair color application prior to color application to protect client's skin and clothing 100% of the time.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 3.0.3, 3.0.6 |
| Math: | N/A |
| Science: | 15 |
| Safety: | 5, 16 |

## Equipment, Supplies, and Other Resources

1. shampoo cape
2. towels
3. large clips
4. comb & brush
5. *Standard Cosmetology Textbook,* pages 69, 244, 246, 249, 251, 259

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Eastland Career Center**
**Cosmetology**

| | |
|---|---|
| **Key Steps**<br>(Problem-Solving Technique) | **Liz Hollingsworth**<br>(Instructor) |

# I. Preparing to Teach

| | |
|---|---|
| UNIT: | 10 - Hair Coloring |
| SUBUNIT: | N/A |

**Competency/Terminal Performance Objective**

10.0.1 Prepare client for hair color treatment in the salon by:
1. consultation.
2. educating client in daily care.
3. administering predisposition test.
4. selecting hair color formula.
5. applying strand test.
6. analyzing hair and scalp.
7. practicing safety.
8. completing a release statement and client record.

All procedures must be those given in an approved cosmetology textbook.

**Competency Builders/Pupil Performance Objectives**

10.0.1.9 Drape client for specific hair color application prior to color application to protect client's skin and clothing 100% of the time.

**Integrating Academic Competencies**

Communications:
3.0.3 Communicate appropriately with coworkers, clients, and supervisors.
3.0.6 Follow directions.
Math: N/A
Science: 15 Explain the effects of chemicals when in contact with moisture and human tissue.
Safety: 5 Prevent conditions causing chemical damage to the human body and clothing.
16 Clean and sanitize to prevent spread of germs/disease.

**Equipment, Supplies, and Other Resources**

1. shampoo cape
2. towels
3. large clips
4. comb & brush
5. *Standard Cosmetology Textbook*, pages 69, 244, 246, 249, 251, 259

## Lesson Outline *(continued)*

### Present Situation

This class consists of 19 Juniors. They have had previous experience draping a patron for shampooing, cutting, and styling. Now they will learn the procedure for draping in preparation for various hair color services.

### Interest Approach

(Place questions and student responses on chalkboard.)

"The comfort and protection of the client must always be considered during cosmetology services."

**Q 1.** Why is it important to consider the comfort and protection of the client?

a. To show personal concern for the client
b. To gain the client's confidence by being professional
c. To protect the client's belongings

**Q 2.** What problems could occur if patrons are not protected during services?

a. Their clothes could be ruined.
b. Their skin could be irritated.
c. Their jewelry could be damaged.

**Q 3.** What can we do to protect the patron's skin and clothing?

a. Make careful application of chemicals.
b. Drape properly.

## II. Presenting the Lesson

**Define the Problem** **Key Steps**

**"What procedures should we follow when draping a client for chemical services such as hair coloring?"**

| What to Do | How to Do It |
|---|---|
| 1. Gather materials and supplies for the service. | 1. Obtain towels, shampoo cape, slips, comb & brush. |
| 2. Prevent the spread of germs. (Safety 16) | 2. Sanitize hands with soap and water. |
| 3. Prevent conditions causing chemical damage to human body, clothing, and similar items. (Safety 5, Communications 3.0.3) | 3. Ask the client to remove jewelry; store it in a safe place. |
| 4. (same as #3) | 4. Remove objects from client's hair. |
| 5. (same as #3; Science 15) | 5. Turn the client's collar to the inside. |
| 6. Use towel. | 6. Place towel on back of head and across the shoulders, cross ends of towel beneath the chin, and fasten with a large clip. |
| 7. Use shampoo cape. | 7. Place cape over towel, fasten cape in the back, and adjust towel over cape. |
| 8. Proceed with various hair color treatments. | 8. Apply according to directions in textbook. |

## III. Helping Students Apply Concepts/Principles/Skills

After you have demonstrated the proper procedure for draping a client for various color services, have the students choose a partner and drape each other. One half of the students (Group A) will be the cosmetologists and the other half (Group B) will be models (clients). After you have observed the Group A students, have them switch roles with the Group B students.

## IV. Evaluating Student Learning

Observe the Group A students during the draping process and check each student individually. After they have all been approved, have the partners switch places. Then observe the Group B students and check them for accuracy.

⑧

## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Work and Family Life**
**UNIT:** 4 - Food Preparation
**SUBUNIT:** N/A

**J. Spruill-Gilg**
Instructor

### Competency/Terminal Performance Objective

4.0.6 Prepare and serve nutritious meals and snacks when given recipes, necessary ingredients and equipment, and number of people to be served. All items on the performance assessment should be rated acceptable.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom and lab | **Number/ Name** | | **Date** | 8th week |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | X | 10. Role playing |
| X | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

4.0.6.1 Utilize cookbooks correctly when given a type of food to prepare.
4.0.6.2 Use creativity in food preparation when given a type of food to prepare plus necessary ingredients and equipment. Creativity should match criteria studied in class and recorded in student notebook.
4.0.6.3 Identify and preserve nutritional value of ingredients when preparing a given type of food item. All items on the performance assessment should be rated acceptable.
4.0.6.4 Include special needs of people when planning meals. Planning should correctly deal with the identified needs.
4.0.6.6 Practice safe food preparation when preparing given food items. All items on the performance assessment should be rated acceptable.

### Integrating Academic Competencies

Communications: 1.0.1, 2.0.10
Math: 2.6.2, 2.6.3
Science: N/A
Safety: 1, 2

### Equipment, Supplies, and Other Resources

1. cookbooks
2. notebook paper
3. chalkboard & chalk
4. simulated kitchen with equipment
5. magazines

*(continued)*

| SCHEDULE *(continued)* | | | |
|---|---|---|---|
| **Evaluation/Performance Assessment** | | | |
| | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| X | 5. Written unit test | | |

## Groveport-Madison High School
## Work and Family Life

| | |
|---|---|
| **Key Steps**<br>(Problem-Solving Technique) | **Jodie Spruill-Gilg**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 4 - Food Preparation
SUBUNIT: N/A

**Competency/Terminal Performance Objective**

4.0.6 Prepare and serve nutritious meals and snacks when given recipes, necessary ingredients and equipment, and number of people to be served. All items on the performance assessment should be rated acceptable.

**Competency Builders/Pupil Performance Objectives**

4.0.6.1 Utilize cookbooks correctly when given a type of food to prepare.
4.0.6.2 Use creativity in food preparation when given a type of food to prepare plus necessary ingredients and equipment. Creativity should match criteria studied in class and recorded in student notebook.
4.0.6.3 Identify and preserve nutritional value of ingredients when preparing a given type of food item. All items on the performance assessment should be rated acceptable.
4.0.6.4 Include special needs of people when planning meals. Planning should correctly deal with the identified needs.
4.0.6.6 Practice safe food preparation when preparing given food items. All items on the performance assessment should be rated acceptable.

**Integrating Academic Competencies**

Communications:
- 1.0.1 Evaluate and respond critically to forms and techniques of printed media.
- 2.0.10 Organize facts, details, and examples in logical order.

Math (Measurement):
- 2.6.2 Compute using appropriate units of measurement.
- 2.6.3 Read scale on measurement devices to nearest mark, etc.

Science: N/A
Safety: 1 Prevent cuts and abrasions.
2 Prevent burns.

**Equipment, Supplies, and Other Resources**

1. cookbooks
2. notebook paper
3. chalkboard & chalk
4. simulated kitchen with equipment
5. magazines

**Present Situation**

This is a Work and Family (WKFM) small class of 14 students in grades 10-12.

*(continued)*

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and answers on chalkboard. Discuss the possible student responses as a class.)

**Q 1.** What is the purpose of a recipe?

a. To tell you what to do
b. To help you cook step-by-step
c. To give you more predictable products

**Q 2** What important facts should a recipe include in order to be successful?

a. Ingredients
b. Measurements
c. Oven temperature
d. Equipment needed
e. Number of servings
f. Mixing instructions
g. Time for baking
h. Serving ideas

**Q 3.** How can you organize a shopping list according to a recipe?

a. List ingredients.
b. Take inventory.
c. Make list according to what is needed.

**Q 4.** How do you prepare to cook when using a recipe?

a. Read recipe through.
b. Assemble all ingredients.
c. Assemble all equipment, utensils, and special supplies.
d. Clear work area.

**Q 5.** What rules should be followed for serving?

a. Consider garnish.
b. Serve attractively.
c. Have all foods done at same time.
d. Respect serving temperatures.

**Q 6.** How do you clean up?

a. Try to clean up as I go.
b. Keep work area clutter-free.
c. Follow safety when cleaning sharp objects.
d. Clean immediately for ease of cleaning.
e. Put things back where they belong.
f. Store leftovers properly.

## II. Presenting the Lesson

**Define the Problem**

**Key Steps**

**"What are the steps involved in selecting a recipe, shopping for ingredients, preparing the recipe, serving the meal, and cleaning up?"**

| What to Do | How to Do It |
|---|---|
| 1. Determine family preference. | 1. Ask family for ideas. |
| 2. Select recipe. | 2. Read cookbook. |
| 3. Determine ingredients. | 3. Read recipe. |
| 4. Take inventory. | 4. Look through cabinets and refrigerator. |
| 5. Make shopping list. | 5. Write down needed items. |
| 6. Select needed items. | 6. Go to store and buy them. |
| 7. Organize ingredients. | 7. Get out all needed ingredients. |
| 8. Organize equipment. | 8. Get out all needed equipment. |
| 9. Prepare recipe. | 9. Follow instructions. |
| 10. Serve attractively. | 10. Arrange plate in appetizing way. |
| 11. Clean up. | 11. Follow safety rules for cleaning up. |
| 12. Put things away. | 12. Put all equipment back in its place. |

## III. Helping Students Apply Concepts/Principles/Skills

Have students take notes and write answers on worksheets. They should read the cookbook and select a recipe for a main dish. Have them make a shopping list after an inventory of the supply cabinet and refrigerator. Reading flyers, they will then estimate the cost of the ingredients. Have the students go to the kitchen and assemble all needed equipment for their recipe. They are then to put each item back where it belongs. Have them cut pictures from magazines to make their "meal." Evaluate it on nutrition and appearance.

## IV. Evaluating Student Learning

| | | |
|---|---|---|
| 1. | Completed worksheet | 10 points |
| 2. | Written shopping list | 10 points |
| 3. | Prices estimated | 10 points |
| 4. | Needed equipment assembled and put back | 10 points |
| 5. | "Meal" made from magazine pictures | 10 points |
| 6. | Written test completed | 100 points |
| | TOTAL | 150 points |

⑨

## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **GRADS**
**UNIT:** 2 - Pregnancy
**SUBUNIT:** 2.2 - Postnatal Care

**T. Branham**
Instructor

### Competency/Terminal Performance Objective

2.2.2 Demonstrate newborn feeding, clothing, and bathing when given all necessary equipment and resources. All items on the performance assessment should be rated acceptable.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | Room 203 | **Date** | 4th week |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

2.2.2.6 Demonstrate putting on and taking off clothing of a newborn, when given baby clothing and a baby or baby doll. Score at least 90% on a teacher-developed performance checklist.

2.2.2.7 Demonstrate a sponge bath and/or tub bath when given bathing equipment and a baby or baby doll. Score at least 90% on a teacher-developed performance checklist.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 2.0.9, 2.0.18, 3.0.1 |
| Math: | N/A |
| Science: | N/A |
| Safety: | 2 |

### Equipment, Supplies, and Other Resources

1. baby doll dressed in diaper, undershirt, and stretch suit
2. basin & warm water
3. washcloth & towel
4. 8-10 cotton balls
5. soap, shampoo, alcohol, powder, and lotion
6. clean diaper, undershirt, and stretch suit
7. baby bath handout & dressing baby handout
8. chalkboard & chalk

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

| **Eastland Joint Vocational School**<br>**GRADS** | |
|---|---|
| **Key Steps**<br>(Problem-Solving Technique) | **Teresa Branham**<br>(Instructor) |

## I. Preparing to Teach

UNIT: 2 - Pregnancy
SUBUNIT: 2.2 - Postnatal Care

### Competency/Terminal Performance Objective

2.2.2 Demonstrate newborn feeding, clothing, and bathing when given all necessary equipment and resources. All items on the performance assessment should be rated acceptable.

### Competency Builders/Pupil Performance Objectives

2.2.2.6 Demonstrate putting on and taking off clothing of a newborn, when given baby clothing and a baby or baby doll. Score at least 90% on a teacher-developed performance checklist.

2.2.2.7 Demonstrate a sponge bath and/or tub bath when given bathing equipment and a baby or baby doll. Score at least 90% on a teacher-developed performance checklist.

### Integrating Academic Competencies

Communications:
- 2.0.9 Write legibly.
- 2.0.18 Use written language to express oneself clearly.
- 3.0.1 Demonstrate effective listening skills.

Math: N/A
Science: N/A
Safety: 2 Prevent burns.

### Equipment, Supplies, and Other Resources

1. baby doll dressed in diaper, undershirt, and stretch suit
2. basin & warm water
3. washcloth & towel
4. 8-10 cotton balls
5. soap, shampoo, alcohol, powder, and lotion
6. clean diaper, undershirt, and stretch suit
7. baby bath handout & dressing baby handout
8. chalkboard & chalk

### Present Situation

The composition of this class changes from week to week. There are usually 6-8 students, both pregnant and parenting. The students are at very different levels of experience and knowledge about newborns.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and responses on chalkboard.)

**Q 1.** Why is it important to know how to give a sponge bath to a newborn?

(Possible student responses)

a. You can't give a baby a tub bath until the cord falls off.
b. It's hard to handle a slippery, wet baby in a tub.
c. My baby will need to be kept clean, and I'm the one who will have to do the cleaning up!
d.

**Q 2.** What problems have you heard people have had or do you think you might have in giving a baby a sponge bath?

(Possible student responses)

a. Finding a suitable place
b. Getting soap in the baby's eyes
c. Getting water in the baby's ears
d. How to clean the cord
e.

**Q 3.** What do you need to know to be prepared to give your baby a sponge bath for the first time?

(Possible student responses)

a. Where to give the sponge bath
b. What materials are needed
c. Where to start on the baby
d. Which products to use
e. How to go about it, step-by-step
f.

## II. Presenting the Lesson

**Define the Problem**

**Key Steps**

**Q 4: "What steps do we follow in giving a newborn a sponge bath?"**

| What to Do | How to Do It |
|---|---|
| 1. Gather all supplies. | 1. Put in basket: cotton balls, washcloth, towel, soap, shampoo, alcohol, powder, lotion, diaper, undershirt, stretch suit. Also get basin for water and cup for adding water. |
| 2. Set up bath area. | 2. Choose warm, draft-free place. Place water container on sturdy surface. Have padded, sturdy surface for baby to lie on. Spread towel out on surface for baby. |
| 3. Prepare water. | 3. Place warm water in small basin. Use elbow or thermometer to check temperature. |
| 4. Wash baby's face. | 4. Leave baby dressed while washing face and head to prevent chilling. Use washcloth and clear water to wash baby's face. Use cotton ball moistened in water to clean eyelids, wiping out from nose. Use clean cottonball for each eye. Clean nose by twisting moistened cotton ball into a point and wiping inside nostril. Clean ears with moistened cottonball. Do **not** stick anything, including a Q-tip, into ear canal; it may impact ear wax. |
| 5. Wash baby's head. | 5. Hold baby in football hold. With free hand, use washcloth to wet scalp. Apply very little shampoo (a pea-sized drop). Lather. Rinse with washcloth. Pat dry with towel. |
| 6. Undress the baby. | 6. Unfasten fasteners. Using one hand to stretch sleeve over fist, use other hand to gently pull arm out of sleeve from inside of garment. Remove legs from garment. Remove undershirt the same way. Supporting head, lift baby slightly and remove clothes from underneath. Remove diaper. |
| 7. Wash front of baby. | 7. Lay baby on spread-out towel. Squeeze small amount of baby soap on damp washcloth. Start at neck and move down body. Be sure to wash all creases and folds. Rinse thoroughly. Pat dry with towel. |
| 8. Wash back of baby. | 8. Being careful to support head, roll baby onto stomach. Wash back and bottom, again paying careful attention to folds and creases. Rinse thoroughly and pat dry. |
| 9. Care for circumcision. | 9. Care for circumcision as directed by your doctor. |

*(continued)*

**Steps** *(continued)*

| What to Do | How to Do It |
|---|---|
| 10. Diaper baby. | 10. Raise baby's bottom by lifting feet with one hand. Place diaper under bottom. Apply powder or lotion if desired. Bring diaper up through legs and fasten. |
| 11. Care for umbilical cord. | 11. Using clean cotton ball moistened with alcohol, wipe around entire stump of umbilical cord. Be sure to get underneath. Do not pull on stump; it will fall off by itself when it is ready. |
| 12. Dress baby. | 12. Hold baby and remove towel from surface. Lay out stretch suit with undershirt spread out on top. Lay baby on top of spread-out clothes. Use one hand to open sleeve of undershirt and other hand to push baby's fist through opening. Cover baby's toes with one hand and push foot down into stretch suit. Fasten all fasteners, keeping your fingers between fasteners and baby to prevent pinches. |
| 13. Clean up area. | 13. Lay baby down in safe place. Throw away used cotton balls. Dump water. Dry out container. Hang towel and wash cloth to dry. Put supplies away. Dispose of used diaper. Put dirty clothes in hamper. |

## III. Helping Students Apply Concepts/Principles/Skills

At the end of your demonstration, have the students complete a performance assessment on it. Then give them an opportunity to practice before assessing them.

## IV. Evaluating Student Learning

Evaluate each student according to the three attached performance assessments, "Dressing and Undressing a Newborn," "Giving a Baby a Sponge Bath," and "Giving a Baby a Tub Bath." Also, have each student complete the quiz on giving a baby a sponge bath.

# Performance Assessment
# DRESSING AND UNDRESSING A NEWBORN

**Directions:** You will be given a doll and four types of baby garments: a pullover garment, a slipover gown, an open-front shirt, and a one-piece garment with feet. Dress and undress the doll in each of the outfits, using the techniques learned in class.

| **PROCESS** | | **Yes** | **No** |
|---|---|---|---|
| PULLOVER GARMENT | | | |
| 1. | Was the garment gathered in a loop? | ____ | ____ |
| 2. | Was the garment slipped over the back of the head? | ____ | ____ |
| 3. | Was the garment stretched forward past the face? | ____ | ____ |
| 4. | Was the baby's fist pushed into the armhole with one hand and pulled through with the other hand? | ____ | ____ |
| 5. | Was the baby dressed with the least amount of handling possible? | ____ | ____ |
| 6. | Were the steps reversed when undressing the baby? | ____ | ____ |
| SLIPOVER GARMENT | | | |
| 7. | Was the garment gathered in a loop? | ____ | ____ |
| 8. | Was the garment placed around the baby's face like an oval frame? | ____ | ____ |
| 9. | Was the baby's fist pushed into the armhole with one hand and pulled through with the other hand? | ____ | ____ |
| 10. | Was the baby dressed with the least amount of handling possible? | ____ | ____ |
| 11. | Were the steps reversed when undressing the baby? | ____ | ____ |
| OPEN-FRONT SHIRT | | | |
| 12. | Was the baby placed lying face down? | ____ | ____ |
| 13. | Was the shirt laid on the baby's back? | ____ | ____ |
| 14. | Was the baby gently turned face up so that the shirt was underneath? | ____ | ____ |
| 15. | Was the baby's fist pushed into the armhole with one hand and pulled through with the other hand? | ____ | ____ |
| 16. | Was the baby dressed with the least amount of handling possible? | ____ | ____ |
| 17. | Were the steps reversed when undressing the baby? | ____ | ____ |
| ONE-PIECE GARMENT WITH FEET | | | |
| 18. | Was the garment spread out on the table, with all fasteners open, before the baby was laid down? | ____ | ____ |
| 19. | Was the baby laid down on top of the garment? | ____ | ____ |
| 20. | Was the bottom part of the garment put on first? | ____ | ____ |
| 21. | Was the baby's fist pushed into the armhole with one hand and pulled through with the other hand? | ____ | ____ |
| 22. | Was the baby dressed with the least amount of handling possible? | ____ | ____ |
| 23. | Were the steps reversed when undressing the baby? | ____ | ____ |
| **PRODUCT** | | | |
| 24. | Is the baby completely dressed, with all fasteners correctly fastened? | ____ | ____ |

TOTAL ________________ /24

NAME ______________________________

## Performance Assessment
## GIVING A BABY A SPONGE BATH

**Directions:** You will be given a doll and a box of miscellaneous supplies. Choose the necessary supplies and give the doll a sponge bath with imaginary water.

| **PROCESS** | **Yes** | **No** |
|---|---|---|
| 1. Were all necessary supplies gathered before starting? | _____ | _____ |
| 2. Was the bath area set up before beginning the bath? | _____ | _____ |
| 3. Was a warm, draft-free area selected for the bath? | _____ | _____ |
| 4. Was warm water put in a container? | _____ | _____ |
| 5. Was the baby kept dressed while the face and head were washed? | _____ | _____ |
| 6. Was the baby's face washed with water only? | _____ | _____ |
| 7. Was a cotton ball used to wash the baby's eyes? | _____ | _____ |
| 8. Were the eyes cleaned from the nose out toward the ears? | _____ | _____ |
| 9. Were the ears cleaned with a clean cotton ball? | _____ | _____ |
| 10. Were the nostrils cleaned out with a clean cotton ball? | _____ | _____ |
| 11. Was the baby held in the "football hold" while washing the head? | _____ | _____ |
| 12. Were shampoo and rinse water kept out of baby's eyes? | _____ | _____ |
| 13. Was baby's clothing removed without causing baby discomfort? | _____ | _____ |
| 14. Was entire front of body, including all creases, washed? | _____ | _____ |
| 15. Was entire front of body rinsed? | _____ | _____ |
| 16. Was front of baby patted dry? | _____ | _____ |
| 17. Was baby rolled over to wash back and bottom? | _____ | _____ |
| 18. Was entire back of body, including all creases, washed? | _____ | _____ |
| 19. Was entire back of body rinsed? | _____ | _____ |
| 20. Was back of baby patted dry? | _____ | _____ |
| 21. Was the baby dressed completely? | _____ | _____ |
| 22. Was the area cleaned up when finished? | _____ | _____ |
| **PRODUCT** | | |
| 1. Is the baby clean all over? | _____ | _____ |
| 2. Is the baby dry all over? | _____ | _____ |
| 3. Is the baby completely dressed? | _____ | _____ |

SCORE ________________ /25

NAME ______________________________

## Performance Assessment
## GIVING A BABY A TUB BATH

**Directions:** You will be given a doll and a box of miscellaneous supplies. Choose the necessary supplies and give the "baby" a tub bath.

| **PROCESS** | **Yes** | **No** |
|---|---|---|
| 1. Were all necessary supplies gathered before starting? | | |
| 2. Was the bath area set up before beginning the bath? | | |
| 3. Was a warm, draft-free area selected for the bath? | | |
| 4. Was the tub lined with a towel or a piece of foam? | | |
| 5. Was the tub filled with 1-3 inches of warm water? | | |
| 6. Was the baby kept dressed while the face and head were washed? | | |
| 7. Was the baby's face washed with water only? | | |
| 8. Was a cotton ball used to wash the baby's eyes? | | |
| 9. Were the eyes cleaned from the nose out toward the ears? | | |
| 10. Were the ears cleaned with a clean cotton ball? | | |
| 11. Were the nostrils cleaned out with a clean cotton ball? | | |
| 12. Was the baby held in the "football hold" while washing the head? | | |
| 13. Were shampoo and rinse water kept out of baby's eyes? | | |
| 14. Was baby's clothing removed without causing baby discomfort? | | |
| 15. Was the baby lifted feet first into the tub? | | |
| 16. Was the baby held securely while being lifted into the tub? | | |
| 17. Were the baby's head and shoulders held while soaping his/her body? | | |
| 18. Were all parts of the body, including creases, thoroughly washed? | | |
| 19. Was the baby turned onto his/her back gently? | | |
| 20. Was the baby lifted onto a flat surface to be dried? | | |
| 21. Was the baby patted completely dry with a towel? | | |
| 22. Was the baby dressed completely? | | |
| 23. Was the area cleaned up when finished? | | |

| **PRODUCT** | | |
|---|---|---|
| 1. Is the baby clean all over? | | |
| 2. Is the baby dry all over? | | |
| 3. Is the baby completely dressed? | | |

SCORE ________________ /26

NAME ______________________________

## QUIZ

## GIVING A BABY A SPONGE BATH

A. Here are the steps for giving a baby a sponge bath. Put them in the **proper order** by writing 1 in the blank in front of the first step, 2 in the blank in front of the second step, and so on.

______ Roll the baby over to wash the back and bottom.
______ Clean the nostrils and ears with a cotton ball.
______ Set up the bath area.
______ Dress the baby.
______ Hold baby in "football hold" and wash the head.
______ Put warm water in a container.
______ Rinse front of body.
______ Rinse back of body.
______ Wash baby's eyes from nose area out toward ears with a cotton ball.
______ Gather all necessary supplies.
______ Wash baby's face with water only.
______ Remove baby's clothing.
______ Clean up bath area and put supplies away.

B. In the spaces below, list the supplies you would need to gather before starting to give your baby a sponge bath (at least 9 items).

| | | |
|---|---|---|
| ______________ | ______________ | ______________ |
| ______________ | ______________ | ______________ |
| ______________ | ______________ | ______________ |

C. In the space provided, answer each of the three following questions with 3 to 5 sentences of your own.

1. How do you feel when you see a baby with a dirty face and smelling bad?

2. Do you enjoy giving your baby a sponge bath? Why or why not?

3. How often do you give your baby a sponge bath? Does anyone else ever give your baby his/her bath?

⑩

# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Work and Family Life**
**UNIT:** 4 - Nutrition and Wellness
**SUBUNIT:** N/A

**M.J. Holbrook, D. Linder,**
**D. Renner, N. Wood**
Instructors

## Competency/Terminal Performance Objective

4.0.6 Prepare and serve nutritious meals and snacks when given necessary recipes, ingredients, equipment, and number of people to be served. All items on the performance assessment should receive an acceptable rating.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | School lab/class | **Number/ Name** | | **Date** | Oct., week 3 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

After preliminary discussion of nutritious meals, I will demonstrate the use of cookbooks and recipes.

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

4.0.6.4 Modify recipes to meet (specific) dietary needs when given a person or family, recipes to be modified, and necessary ingredients and equipment. All items on the performance assessment should receive a *yes* rating. Performance items are to be those studied in class and recorded in the student notebook.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.2, 2.0.3, 3.0.1 |
| Math: | 2.6.2, 2.6.3 |
| Science: | 15 |
| Safety: | 1, 2, 12 |

## Equipment, Supplies, and Other Resources

1. cookbooks and recipe cards
2. chalkboard & chalk or overhead projector
3. Dairy Council resources on nutrition
4. cooking utensils
5. groceries
6. measuring and mixing equipment - bowls, spoons, cups - in each learning center
7. cleaning supplies in each learning center

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | X | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

## Westland High School
## Work and Family Life

| Key Steps (Problem-Solving Technique) | Mary Jo Holbrook, Donna Linder, Debra Renner, Norma Wood |
|---|---|

# I. Preparing to Teach

UNIT: 4 - Nutrition and Wellness
SUBUNIT: N/A

**Competency/Terminal Performance Objective**

4.0.6 Prepare and serve nutritious meals and snacks when given necessary recipes, ingredients, equipment, and number of people to be served. All items on the performance assessment should receive an acceptable rating.

**Competency Builders/Pupil Performance Objectives**

4.0.6.4 Modify recipes to meet (specific) dietary needs when given a person or family, recipes to be modified, and necessary ingredients and equipment. All items on the performance assessment should receive a *yes* rating. Performance items are to be those studied in class and recorded in the student notebook.

**Integrating Academic Competencies**

Communications:
1.0.2 Select and use appropriate reference sources and illustrative materials when given an assignment. Selection and use should assist in completing the assignment accurately.
2.0.3 Record observations when presented data. Data should be 100% accurate.
3.0.1 Demonstrate effective listening skills when given verbal directions. Actions should be 100% correct.

Math (Measurement):
2.6.2 Compute using appropriate units of measurement when reading and using the given recipe. Calculations should be 100% accurate.
2.6.3 Read scale on measurement device(s) to nearest mark and make interpolations where appropriate when using the measuring cups and spoons for wet and dry ingredients. Readings should be 100% accurate.

Science: 15 Explain the effects of chemicals when in contact with moisture and human and animal tissues, when using recipe ingredients. Explanation should correlate with principles studied in class.

Safety: 1 Prevent cuts and abrasions from tools and equipment when using equipment items while mixing ingredients. No cuts or abrasions should occur.
2 Prevent burns from fire, hot cooking utensils, hot metal, and other sources of heat while preparing the cookies. No burns should occur.
12 Prevent damage to tools, equipment, and building facilities while preparing the cookies. No damage should occur.

**Equipment, Supplies, and Other Resources**

1. cookbooks and recipe cards
2. chalkboard & chalk or overhead projector
3. Dairy Council resources on nutrition
4. cooking utensils
5. groceries
6. measuring and mixing equipment - bowls, spoons, cups - in each learning center
7. cleaning supplies in each learning center

**Lesson Outline** *(continued)*

**Present Situation**

Students have had previous experience with cooking techniques, dietary nutrition guidelines, and cholesterol levels of food, but have not had to modify recipes.

**Interest Approach**

(Place these three questions and student responses on chalkboard.)

**Q 1.** How important is good nutrition?

(Possible student responses)
a. Helps you look and feel good
b. Helps reduce or eliminate the risk of certain diseases
c. Helps to maintain normal weight level for the individual
d. Helps to avoid skin problems
e. Gives you plenty of energy

**Q 2.** What problems have we had resulting from poor nutrition?

(Possible student responses)
a. Cholesterol problems
b. Weight problems
c. Heart problems
d. Skin problems
e. Lack of energy

**Q 3.** What do we need to know or be able to do in order to correct or prevent these problems?

(Possible student responses)
a. Know about nutrition
b. Know about meal planning
c. Know about recipes
d. Know how to change recipes
e. Know about calorie content

"To give us some practice in modifying recipes, I thought we would alter a traditional cookie recipe. Simple modifications can be made in traditional recipes that still adhere to the Dietary Guidelines. Tomorrow I will give each group a copy of an oatmeal cookie recipe."

Group #1 will make the traditional recipe.
Group #2 will decrease the sugar by approximately 1/4 cup.
Group #3 will decrease the fat by approximately 2 tablespoons.
Group #4 will omit the salt.
Group #5 will decrease the sugar, decrease the fat, and omit the salt.

## II. Presenting the Lesson

**Define the Problem** **Key Steps**

**"What procedures should we follow in modifying a cookie recipe?"**

(Ask students to give suggested steps verbally in the process of modifying a cookie recipe. Then discuss the steps you will have them take in making oatmeal cookies. Review the modifications made to the recipe. As you discuss the recipe, let the students determine how accurate they were in their earlier reasoning skills.)

| What to Do | How to Do It |
|---|---|
| 1 Preheat oven. (Communications 1.0.2, 2.0.3, 3.0.1) | 1. Set oven to 350°F. |
| 2 Grease pan. | 2. Grease a cookie sheet. |
| 3. Assemble equipment. | 3. 1 large bowl, 1 set of measuring spoons, 1 set of dry measuring cups, sifter, 1 small bowl, 1 wooden spoon, cooling racks |
| 4. Assemble ingredients. | 4. Margarine, egg, vanilla, sugar, brown sugar, flour, baking soda, salt, quick-cooking oats, raisins |
| 5. Mix first 3 ingredients. (Math 2.6.2, 2.6.3, Safety 1, 12) | 5. Mix in a large bowl the margarine, egg, and vanilla. |
| 6. Blend next 2 ingredients. | 6. Add and blend sugar and (packed) brown sugar. |
| 7. Sift next 3 ingredients. (Science 15) | 7. Sift into a small bowl the flour, baking soda, and salt. Add to mixture in large bowl. |
| 8. Stir in last 2 ingredients. | 8. Stir in with a wooden spoon the oats and raisins. |
| 9. Arrange dough on cookie sheet. | 9. Drop dough from teaspoons onto a greased cookie sheet. |
| 10. Bake. (Safety 1, 2) | 10. Bake 10-12 minutes until lightly browned. |
| 11. Cool. | 11. Let cool on wire racks. |

## III. Helping Students Apply Concepts/Principles/Skills

Help students to apply the skill of modifying recipes, to prepare the cookies, and to compare tastes of the different modifications during lab time. Incorporate application of the academic competencies into the lab experience.

## IV. Evaluating Student Learning

Use a performance test to evaluate the process and product of the student activities. Give all students a copy of the test beforehand so they will know exactly what is expected of them on the test. If students in a learning center do not achieve a *yes* rating on each item, have them determine what mistakes they made.

Give students a written quiz at the end of the unit.

⑪

## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

| | | |
|---|---|---|
| **PROGRAM:** | **Activity Therapy** | **J. Hug**<br>Instructor |
| **UNIT:** | 3 - Safety and Health | |
| **SUBUNIT:** | 3.1 - Obtain Safety Certifications | |

### Competency/Terminal Performance Objective

3.1.X Obtain safety certifications in accordance with Red Cross standards when given standard training. All skills tests and written tests must be passed as specified by the Red Cross.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | School lab/class | **Number/ Name** | Room 340 | **Date** | Dec. |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | X | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

3.1.X.X Perform CPR on the training mannequin. Skill sheets and exam both must receive passing grades.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.10, 3.0.7, 3.0.10, 3.0.11, 4.0.3 |
| Math: | 1.6.5, 2.6.4 |
| Science: | 7 |
| Safety: | 13 |

### Equipment, Supplies, and Other Resources

- American Red Cross - *Community First Aid and Safety* text with skill sheets
- training mannequin (one per pair)
- container of cleaning solution (1:10 bleach-water mixture)

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | X | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| X | 5. Written unit test | | |

**Fairfield Career Center**
**Activity Therapy**

| | |
|---|---|
| **Key Steps**<br>(Problem-Solving Technique) | **Judy Hug**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 3 - Safety and Health
SUBUNIT: 3.1 - Obtain Safety Certifications

### Competency/Terminal Performance Objective

3.1.X Obtain safety certifications in accordance with Red Cross standards when given standard training. All skills tests and written tests must be passed as specified by the Red Cross.

### Competency Builders/Pupil Performance Objectives

3.1.X.X Perform CPR on the training mannequin. Skill sheets and exam both must receive passing grades.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | |
| 1.0.10 | Explain sequence of time, places, events, and ideas. |
| 3.0.7 | Evaluate spoken communications. |
| 3.0.10 | Organize ideas. |
| 3.0.11 | Evaluate nonverbal messages. |
| 4.0.3 | Participate in discussions. |
| Math: | |
| 1.6.5 | Set up, solve, and apply ratios and proportions. |
| 2.6.4 | Estimate measurements. |
| Science: 7 | Explain the following basic human systems: digestive, nervous, circulatory, and endocrine. |
| Safety: 13 | Prevent bodily injury from the lifting and moving of objects, and from falls. |

### Equipment, Supplies, and Other Resources

- American Red Cross - *Community First Aid and Safety* text with skill sheets
- training mannequin (one per pair)
- container of cleaning solution (1:10 bleach-water mixture)

### Present Situation

The class consists of 18 Seniors in Activity Therapy. This training is the first of three parts to receive Community First Aid and Safety certification and Community CPR certification.

## Lesson Outline *(continued)*

### Interest Approach

Share a current local news item regarding coronary disease or heart attack.

Follow the prescribed Instructor Curriculum for Community First Aid and Safety.

"Consider the situation you just heard about. How many of you would like to be able to help in a situation like this?"

**Q 1.** Why do you think there is a need to learn CPR?

(Possible student responses)

a. To save lives of people suffering cardiac arrest
b. To help maintain organs of brain-dead or recently deceased victims
c. To gain knowledge to train others

**Q 2.** What situations might make it difficult to learn CPR?

(Possible student responses)

a. Medical condition
b. Physical condition
c. Previous emotional trauma
d. Poor motor ability/control
e. Poor cognitive ability

**Q 3.** What problems are you aware of or have you experienced in doing CPR?

(Possible student responses)

a. Fatigue
b. Forgetting the sequence of steps to take
c. Possibility of infection/disease
d. Liability

**Q 4.** What do we need to know about CPR so that we are sure we can perform it correctly?

(Possible student responses)

a. What the proper technique is, and we need to learn it by practice
b. How to use protective barriers for rescue breathing
c. What is involved in the State's "Good Samaritan Law"
d. When assistance is necessary (victim with no pulse, not breathing)

## II. Presenting the Lesson

**Define the Problem** | **Key Steps**

**"What are the steps in performing 1-rescuer CPR on an adult victim?"**

| What to Do | How to Do It |
|---|---|
| (Communications 3.0.10, 4.0.3) | |
| 1. Determine pulse or lack of one. | 1. Locate carotid artery. Check pulse for 5-10 seconds. If no pulse, direct bystander to call 9-1-1. |
| 2. Establish airway. | 2. Use chin-lift method to open airway. |
| 3. Ventilate victim. | 3. Place mouth over victim's mouth, pinch victim's nostrils together, and administer two full breaths, each lasting 1 1/2 to 2 seconds. |
| 4. Locate compression site. | 4. Find xyphoid process at lower end of sternum. Measure two finger-widths up from xyphoid. Place one palm next to fingers, other hand on top of first hand. |
| 5. Perform compressions. | 5. With elbows straight, pushing downward from shoulders, compress chest 1 1/2 to 2 inches fifteen times. |
| 6. Repeat. | 6. Repeat steps 2-5 three more times. Check pulse and breathing. Continue CPR (steps 2-5) if necessary. |

## III. Helping Students Apply Concepts/Principles/Skills

Have students work in pairs, using skill sheets provided for partner practice/evaluation. To check their skills, have each student demonstrate CPR on a full-body mannequin.

## IV. Evaluating Student Learning

Hand out skill tests for the specific skills of rescue breathing and chest compressions. Point out to the students that standard skill sheets from the American Red Cross are included in their text for partner/peer evaluation. Use them also for teacher evaluation.

In addition, make use of the standard written exam the Red Cross provides for CPR training, consisting of 25 multiple choice items covering rescue breathing and CPR. Inform students that they must receive a grade of 80% (20/25) or better for successful completion and Red Cross certification in CPR.

## Summary of Key-Steps Situation

### Presenting the Lesson

When using this problem-solving technique in planning and teaching a specific topic, you will help the students understand that there are specific steps to take in solving the problem. Also, in most situations these steps must be followed in the proper sequence. Solving the problem using this technique usually involves a demonstration of skills by either the teacher or (rarely) a student.

It's most important to use up-to-date information and state-of-the-art methods and equipment. As the teacher, you must be aware of the recommended student level of proficiency in performing the skills being taught. You should be fairly well skilled yourself in the techniques you will be teaching the students. If you do not feel competent to teach these skills, **practice** until you do or have a resource person do the demonstrating.

### Helping Students Apply Concepts/Principles/Skills

The "application" phase of the Key Steps technique takes place when students practice the skills demonstrated in the lesson. Examples of these skills are spray painting a car, making a corsage, typing a letter, grinding engine valves, designing a hair style, and many others.

Application also takes place when a student applies the problem-solving technique to his/her own situation in which there is a need for specific manipulative or mental actions, usually conducted in a specific sequence.

### Evaluating Student Learning

Evaluation of student learning can take place as the class progresses through the learning of the planned skills. Such evaluation can be formative (testing the amount of learning periodically throughout the lesson) and summative (testing the amount of learning at the end of the lesson).

Evaluation techniques can be of several kinds: written tests, oral tests, and/or practical tests. Use the type most appropriate for the lesson's student performance objectives.

# Technique 2: Forked-Road Situation

**Q 1** What is the nature of this problem-solving technique?

1. The student needs to make a decision of some type, whether managerial, applying a psychomotor skill, or making a personal choice of a life event.

2. There are basically only two courses of action which the student can choose between.

**Q 2** What are the steps to follow in this **forked-road** problem-solving procedure?

1. Identify the "decision to be made" by the student with the assistance of the class.

2. Use an "Interest Approach" to the lesson. Encourage the other students to feel a need to help the selected student with the problem – to make a decision or to arrive at a solution. "What does ______ have to gain by making the decision?" The students need to understand and accept this.

3. Clearly identify the decision to be made; write it on the chalkboard. Also write on the chalkboard what choices are open to the student. (See sample chalkboard format on the following page.)

4. Identify the "Factors to Consider." In making decisions, managerial or otherwise, certain factors must be considered. Identify these with the help of the students and write them on the chalkboard. (See sample chalkboard format.)

5. Construct a "Forked-Road Chart" on the chalkboard. The chart may be constructed as the headings are developed. (See sample chalkboard format.)

6. Identify the "Facts for Each Decision." This process will require supervised study by the students. Make available appropriate references. But get some of the facts from the students. Corroborate them with a review of the reference materials.

7. Write the facts in the appropriate box on the chart.

8. Reach a "Conclusion" or make a decision based on a study of the facts. Have students evaluate the information on the chart in light of the selected student's situation (the basis of the lesson). Then have them recommend the decision that seems most appropriate.

9. While the situation of other students will differ, many situations (or problems) will necessitate choosing one of two possible courses of action. When a student has learned the procedure for choosing the most appropriate course of action, he/she can transfer that knowledge to similar situations.

# SAMPLE CHALKBOARD FORMAT

**Define the Problem**

**Forked Road**

**"What shall we do about _______ ?"**

| **Factors to Consider** | **Choice One** | **Choice Two** |
|---|---|---|
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |
| | | |

**Decision/Recommendation**

⑫

# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Precision Machining Technologies**
**UNIT:** 3 - Inspecting Workpieces
**SUBUNIT:** N/A

**J. Cooke**
Instructor

## Competency/Terminal Performance Objective

3.0.1 Inspect rectangular workpiece according to print specifications, dimensions, and tolerances in a typical lab situation.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab, classroom | **Number/ Name** | Room 3 | **Date** | Week 6 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

All the students will be together in the classroom. I will have the needed tools available, plus blueprints, sample workpieces, calibration equipment, and reference materials.

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

3.0.1.1 Select proper measuring devices in accordance with the manufacturer's recommendations to perform specific inspection duties.
3.0.1.2 Check accuracy of the measuring tool before using. Accuracy must meet the manufacturer's specifications.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.2, 2.0.3, 3.0.1 |
| Math: | 1.6.2 |
| Science: | 10 |
| Safety: | 1.0.1, 1.0.5 |

## Equipment, Supplies, and Other Resources

1. various required inspection tools
2. blueprint
3. workpiece
4. calibration equipment
5. reference materials: text books, manufacturer's instructional guides
6. pencil or pen

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Hayes Technical Vocational School**
**Precision Machining Technologies**

| | |
|---|---|
| **Forked Road**<br>(Problem-Solving Technique) | **Jack Cooke**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 3 - Inspecting Workpieces
SUBUNIT: N/A

**Competency/Terminal Performance Objective**

3.0.1 Inspect rectangular workpiece according to print specifications, dimensions, and tolerances in a typical lab situation.

**Competency Builders/Pupil Performance Objectives**

3.0.1.1 Select proper measuring devices in accordance with the manufacturer's recommendations to perform specific inspection duties.
3.0.1.2 Check accuracy of the measuring tool before using. Accuracy must meet the manufacturer's specifications.

**Integrating Academic Competencies**

Communications:
- 1.0.2 Select and use appropriate reference sources and illustrative materials.
- 2.0.3 Record observations.
- 3.0.1 Demonstrate effective listening skills.

Math:
- 1.6.2 Compute and solve problems involving integers, fractions, decimals, and percentages using order of operations.

Science:
- 10 Explain the effects of heating and cooling on various materials.

Safety:
- 1.0.1 Use and care for personal safety equipment.
- 1.0.5 Maintain tools and equipment.

**Equipment, Supplies, and Other Resources**

1. various required inspection tools
2. blueprint
3. workpiece
4. calibration equipment
5. reference materials: text books, manufacturer's instructional guides
6. pencil or pen

**Present Situation**

Students have completed prerequisite competencies for use and care of measuring tools.

## Lesson Outline *(continued)*

### Interest Approach

(Place questions and student responses on chalkboard.)

"You are working in a typical lab situation and the instructor approaches you with a rectangular workpiece and a blueprint. Your assignment is to inspect the workpiece and determine if all dimensions meet print specifications. How do you determine what type of inspection tools will be needed to perform your duties?"

(Possible student responses)

1. Are the dimensions in English or metric?
2. Is the workpiece classified as a precision or non-precision part?
3. Are the dimensions fractional, decimal, or mixed?
4. Do we use only our own inspection tools or can we use any of the inspection tools used in the lab?

After studying the workpiece and the blueprints, the students listed these answers to the above questions.

1. English
2. Non-precision
3. Fractional
4. Our own inspection tools only

## II. Presenting the Lesson

**Define the Problem**

**Forked Road**

(Given a specific workpiece to inspect, the student will select the tools needed to perform the inspection duties on the workpiece. The student is responsible to visually or manually check the inspection tools for damage and accuracy.)

**"Should we use the micrometer or the steel rule when inspecting the workpiece?"**

| Factors to Consider | Choice One | Choice Two |
|---|---|---|
| | **Micrometer** | **Steel Rule** |
| 1. Measurement system | English | Metric |
| 2. Availability of inspection tools | Limited | Unlimited |
| 3. Dimensions | Fractional | Decimal |
| 4. Tolerances | Precision | Non-precision |
| 5. Size of piece | Large | Small |

**Decision/Recommendation**

(After students had viewed the workpiece and studied the accompanying blueprint, they reached the following decision.)

Because the dimensions are in English and the tolerances are fractional, the steel rule is recommended for use in performing the inspection duties.

## III. Helping Students Apply Concepts/Principles/Skills

Give each student a blueprint and a rectangular workpiece to inspect. Have each student record his/her readings on the blueprint next to the specified dimension or tolerance.

## IV. Evaluating Student Learning

Compare the student's findings to the actual size of the workpiece to determine if the student performed the inspection duty properly. If the student's findings are incorrect, have the student repeat the inspection.

⑬

# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Animal Care**
**UNIT:** X - Disease and Parasite Control
**SUBUNIT:** X.X - Treating Diseases

**P. Collins**
Instructor

## Competency/Terminal Performance Objective

X.X.X Use euthanasia when faced with the decision concerning treating or not treating a sick animal. Decision should match that of the teacher.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom, lab | **Number/ Name** | Animal Care #1 | **Date** | Jan., week 2<br>one day |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

X.X.X.1 Define the term **euthanasia** in the context of a sick pet. Definition should agree with that studied in class.

X.X.X.2 Explain and defend decision to use euthanasia when given a situation involving a critically ill animal or pet. Explanation and decision should include factors and facts studied in class.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | |
| Reading: | 1.0.2, 1.0.4, 1.0.5, 1.0.6, 1.0.7, 1.0.11 |
| Writing: | 2.0.9, 2.0.14 |
| Listening: | 3.0.1, 3.0.3, 3.0.6, 3.0.7 |
| Speaking: | 4.0.3, 4.0.12 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

## Equipment, Supplies, and Other Resources

- chalkboard & chalk
- references including discussions on euthanasia

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | X | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

| Toledo Ag. Ed. Center<br>Animal Care | |
|---|---|
| **Forked Road**<br>(Problem-Solving Technique) | **Penny Collins**<br>(Instructor) |

# I. Preparing to Teach

| | |
|---|---|
| UNIT: | X - Disease and Parasite Control |
| SUBUNIT: | X.X - Treating Diseases |

**Competency/Terminal Performance Objective**

X.X.X Use euthanasia when faced with the decision concerning treating or not treating a sick animal. Decision should match that of the teacher.

**Competency Builders/Pupil Performance Objectives**

X.X.X.1 Define the term **euthanasia** in the context of a sick pet. Definition should agree with that studied in class.

X.X.X.2 Explain and defend decision to use euthanasia when given a situation involving a critically ill animal or pet. Explanation and decision should include factors and facts studied in class.

**Integrating Academic Competencies**

Communications:

| | |
|---|---|
| 1.0.2 | Select and use appropriate reference sources and illustrative materials. |
| 1.0.4 | Determine solutions to problems. |
| 1.0.5 | Identify details such as who, what, why, where, when, or how. |
| 1.0.6 | Make predictions about information. |
| 1.0.7 | Cite details that support or do not support predictions. |
| 1.0.11 | Differentiate facts and opinions. |
| 2.0.9 | Write legibly. |
| 2.0.14 | Use correct spelling. |
| 3.0.1 | Demonstrate effective listening skills. |
| 3.0.3 | Communicate appropriately with coworkers, clients, and supervisors. |
| 3.0.6 | Follow directions. |
| 3.0.7 | Evaluate spoken communications. |
| 4.0.3 | Participate in discussions. |
| 4.0.12 | Use appropriate language. |

| | |
|---|---|
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

**Equipment, Supplies, and Other Resources**

- chalkboard & chalk
- references including discussions on euthanasia

**Lesson Outline** *(continued)*

**Present Situation**

This is a class of Junior Animal Care students. Many have pets of their own. All may be faced with the decision as to what action to take with a sick pet. Many will be working at the Zoo next summer and also in their Senior year.

**Interest Approach**

(Place questions and student responses on chalkboard.)

"Two days ago, Jill and Betsy informed me that one of the rats in their care was not eating properly and seemed listless. This morning when I arrived here in the building, I looked at the rat. (Show the rat.) What do you see as abnormal conditions? Yes, that's right. Hemorrhaging nose, ruffled coat, roaring respiration. What choices do we have concerning the condition of this rat? Right. We can call in the Zoo vet or we can euthanize the rat. What shall we do?

## II. Presenting the Lesson

**Define the Problem** **Forked Road**

"The rat has a hemorrhaging nose, ruffled coat, and roaring respiration. What shall we do? **Take it to the Zoo vet or euthanize it?"**

| Factors to Consider | Choice One | Choice Two |
|---|---|---|
| | Take to Vet | Euthanize |
| 1. Expense | Costly | None |
| 2. Diagnosis, prognosis | No guarantees. Average life span of rat only about 3 years anyway. | N/A |
| 3. Quality of life | Vet care may help in short run, but animal is in misery now. Also, it may never be "as good as new." | Could extend value of the animal's life by feeding it to a reptile. |

**Decision/Recommendation**

Management-wise, it is best to euthanize the rat. Vet care is very expensive, considering the life span of this animal. Also, there is an alternative use for the rat after euthanizing it. It could be fed to a reptile (provided the rat's illness won't be harmful to the reptile).

## III. Helping Students Apply Concepts/Principles/Skills

Ask students to evaluate their work station assignments as to health conditions of the animals. Have them write down the decision they would make if one of the animals in their area of responsibility becomes ill (treatment vs. euthanasia).

## IV. Evaluating Student Learning

Take time to question each student orally about his/her decision. Evaluate the students on the reasoning and judgment they used in their particular situation.

⑭ **INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY**

| | |
|---|---|
| **PROGRAM:** **Landscape Design and Management**<br>**UNIT:** X - Landscape Construction<br>**SUBUNIT:** N/A | **K. McCann**<br>Instructor |

**Competency/Terminal Performance Objective**

X.X.X Renovate a (given) landscape according to guidelines studied in class and recorded in student notebooks.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom, outdoor lab | **Number/ Name** | | **Date** | Nov., week 1<br>1-2 days |

**Strategies for Related Class and/or Laboratory (Activities, Rotation)**

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| X | 6. Field trip(s) | | 12. Other |

**Competency Builders/Pupil Performance Objectives**

X.X.X.1 Determine if a (given) plant should be removed or saved in a typical residential landscape. Decision should be determined by using problem-solving procedures studied in class.

**Integrating Academic Competencies**

| | |
|---|---|
| Communications: | 3.0.1, 3.0.3, 3.0.6, 3.0.7, 3.0.8, 3.0.9, 3.0.13<br>4.0.2, 4.0.3, 4.0.10, 4.0.12 |
| Math: | 5.6.3 |
| Science: | N/A |
| Safety: | N/A |

**Equipment, Supplies, and Other Resources**

- chalkboard & chalk or overhead projector
- transparencies
- *The Nursery Worker* Student Manual

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| X | 2. Oral quiz | X | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

## Toledo Ag. Ed. Center
## Landscape Design and Management

| | |
|---|---|
| **Forked Road**<br>(Problem-Solving Technique) | **Kevin McCann**<br>(Instructor) |

# I. Preparing to Teach

UNIT: X - Landscape Construction
SUBUNIT: N/A

**Competency/Terminal Performance Objective**

X.X.X Renovate a (given) landscape according to guidelines studied in class and recorded in student notebooks.

**Competency Builders/Pupil Performance Objectives**

X.X.X.1 Determine if a (given) plant should be removed or saved in a typical residential landscape. Decision should be determined by using problem-solving procedures studied in class.

**Integrating Academic Competencies**

Communications:

| | |
|---|---|
| 3.0.1 | Demonstrate effective listening skills. |
| 3.0.3 | Communicate appropriately with coworkers, clients, and supervisors. |
| 3.0.6 | Follow directions. |
| 3.0.7 | Evaluate spoken communications. |
| 3.0.8 | Draw inferences and/or conclusions. |
| 3.0.9 | Distinguish between fact and opinion. |
| 3.0.13 | Recognize propaganda and other persuasive ideas. |
| 4.0.2 | Use nonverbal messages. |
| 4.0.3 | Participate in discussions. |
| 4.0.10 | Give clear explanations. |
| 4.0.12 | Use appropriate language. |

Math:

| | |
|---|---|
| 5.6.3 | Recognize, classify, and use properties of lines and angles. |

Science: N/A
Safety: N/A

**Equipment, Supplies, and Other Resources**

- chalkboard & chalk or overhead projector
- transparencies
- *The Nursery Worker* Student Manual

**Present Situation**

This is a class of 13 Seniors who have had some exposure to landscape design and plant identification.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

"Tomorrow we are going to a customer's home – one that has an existing landscape. The owner has asked this class to assist in renovation of the landscape. The owner doesn't necessarily want to start "from scratch" in the renovation, but realizes that some plants may need to be removed. Which ones? The customer will want reasons for your decisions. So, before we go out to the home, let's go through the decision-making process. What procedures will you need to follow in making a decision as to whether a certain plant should be saved or removed?"

(Possible student responses)

1. We should look at the size of the plant. It may be too big now for the lawn.
2. Obviously, if a tree or shrub is diseased, we wouldn't want to keep it. That would be one of our reasons.
3. We wouldn't want to keep a tree or shrub that is in the wrong place. You know, some plant

## II. Presenting the Lesson

**Define the Problem**

**Forked Road**

"You've identified some realistic factors to consider in helping you decide whether or not a plant should stay in the landscape. Let's start with those factors and consider how they impact our two choices – to keep or not to keep a plant in the landscape."

(Develop the following chart on the chalkboard with the students' help.)

**"Should this plant be removed or should it stay in the landscape?"**

| Factors to Consider | Choice One | Choice Two |
|---|---|---|
| | **Keep in Landscape** | **Remove from Landscape** |
| 1. Size of plant | OK | Too large |
| 2. Health of plant | OK | Diseased; insects |
| 3. Location | OK, fits in with new plan | Unacceptable |
| 4. Aesthetic value | OK, no problems | Unacceptable |
| 5. Relationship to new landscape design | Compatible | Poor effect |

"When we study a given plant in the landscape, we have to ask, 'How well does it have to measure up to our criteria for us to decide whether it stays or goes?' "

(Possible student responses)

1. Maybe if the plant meets all criteria but one, we should keep it.
2. The plant should meet all the criteria. If it doesn't, we shouldn't save it.

"O.K. You've expressed your opinions. Now, let's decide by taking a vote. All who say the plant ought to meet **all** the factors in order to be saved, raise your right hand. O.K. Those who believe that if the plant meets all criteria **except one**, it should be allowed to stay in the landscape, raise your right hand. O.K. Looks like the majority of you believe that the plant ought to meet **all** criteria in order to remain in the landscape. Experts in the landscape industry also believe that a plant should meet all the criteria we've identified in order to stay in the landscape plan. You just did some excellent thinking!

"So, our decision is this:" (Write out on chalkboard.)

**Decision/Recommendation**

If the plant being considered is acceptable in all categories of "Keep in Landscape," it may remain in the landscape. If even one criterion of "Remove from Landscape" applies to the plant, the plant must be removed from the landscape.

## III. Helping Students Apply Concepts/Principles/Skills

Give students the opportunity to decide which plants will be removed and which ones will stay in five different landscapes. Give them opportunities to work as a class, in small groups, and as individuals while making these decisions. Be prepared to give additional instruction when problems arise concerning landscape design, plant health, insect problems, and disease problems.

## IV. Evaluating Student Learning

Divide students into small groups. Ask them as a group to decide if a plant should be removed from the given landscape. Evaluate not only their decision but their logic, reasoning, and judgment.

⑮

## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

| | | |
|---|---|---|
| **PROGRAM:** | **IBE Word Processing** | **J. Schoener**<br>Instructor |
| **UNIT:** | 5 - Support Tasks | |
| **SUBUNIT:** | N/A | |

### Competency/Terminal Performance Objective

5.0.2 Receive visitors when given a simulated office environment. All items on the performance assessment should receive a *yes* rating.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | IBE - 68 | **Date** | Nov., week 1 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | X | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

5.0.2.3 Screen visitors when placed in a simulated situation involving unscheduled visitors. Screening should be done according to employer's specifications.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 3.0.1, 3.0.6, 3.0.11, 3.0.12<br>4.0.2, 4.0.8, 4.0.9, 4.0.10, 4.0.11, 4.0.12 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

### Equipment, Supplies, and Other Resources

1. *Office Systems and Procedures* textbook
2. outlines
3. paper & pencils
4. simulated activities (handouts)
5. visitors' log
6. chalkboard & chalk

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | X | 9. Written report(s) |
| | 5. Written unit test | | |

**Franklin Heights High School**
**IBE Word Processing**

| | |
|---|---|
| **Forked Road**<br>(Problem-Solving Technique) | **Jill Schoener**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 5 - Support Tasks
SUBUNIT: N/A

**Competency/Terminal Performance Objective**

5.0.2 Receive visitors when given a simulated office environment. All items on the performance assessment should receive a *yes* rating.

**Competency Builders/Pupil Performance Objectives**

5.0.2.3 Screen visitors when placed in a simulated situation involving unscheduled visitors. Screening should be done according to employer's specifications.

**Integrating Academic Competencies**

Communications:

| | |
|---|---|
| 3.0.1 | Demonstrate effective listening skills. |
| 3.0.6 | Follow directions. |
| 3.0.11 | Evaluate nonverbal messages. |
| 3.0.12 | Differentiate appreciative, informative, and critical listening skills. |
| 4.0.2 | Use nonverbal messages. |
| 4.0.8 | Give oral directions. |
| 4.0.9 | Give formal and informal talks and speeches. |
| 4.0.10 | Give clear explanations. |
| 4.0.11 | Demonstrate techniques of speech delivery. |
| 4.0.12 | Use appropriate language. |

Math: N/A
Science: N/A
Safety: N/A

**Equipment, Supplies, and Other Resources**

1. *Office Systems and Procedures* textbook
2. outlines
3. paper & pencils
4. simulated activities (handouts)
5. visitors' log
6. chalkboard & chalk

**Present Situation**

This Intensive Business Education (IBE) class consists of 15 Juniors. All have a basic understanding of professionalism and appropriate office behavior.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

"Yesterday we discussed the correct way to greet visitors when they enter your place of employment. Tomorrow we will simulate an office situation in which you will be the secretary for a very busy manager. You will have various responsibilities, such as answering the phone, greeting visitors, and typing various documentation. We will focus on the importance of screening visitors for your boss. Why do you think it is important to screen visitors for your boss?"

(Possible student responses)

1. The boss has told you not to disturb him/her.
2. The boss is too busy to be bothered with people who don't have appointments.
3. The boss has a deadline which must be met and doesn't want to be disturbed.
4. Some unscheduled visitors waste employees' time talking as they wait to see the boss.

## II. Presenting the Lesson

**Define the Problem**

**Forked Road**

Many types of visitors will compete for your supervisor's time and attention. Customers and clients will come to conduct business. Colleagues and other company employees will meet to discuss the operations of the company. Salespeople will call to demonstrate their products.

In some offices there are typically so many visitors that it is difficult for the supervisor to get any work done. You may be asked to help by screening visitors. When you screen properly, you make sure that only the people who need to be seen are seen by your supervisor.

**Situation**

You are the receptionist for a very busy office. A visitor approaches you and says, "Hi! I'm Bill Hold, an old friend of Jim Busch; I'm in town just for today. Can I surprise Jim?" Mr. Busch asked you not to disturb him because he has a deadline to meet by noon today. How would you handle this situation?

(Place on chalkboard)

**"Should the receptionist interrupt the boss, or should she strictly obey his instructions not to disturb him?"**

| Factors to Consider | Choice One | Choice Two |
|---|---|---|
| | **Obey Instructions** | **Interrupt** |
| 1. Mr. Busch has asked not to be disturbed ***no matter what!*** | Your responsibility as receptionist is to abide by your boss's orders. | This could be a situation in which Mr. Busch would approve making an exception. |
| 2. Mr. Hold wants to surprise Mr. Busch; he's an old friend. Is this an exception to the rule? | Don't interrupt. Deadlines must be met; any interruption would be a negative factor. | Knowing Mr. Busch's affection for old friends, you feel it would be O.K. for Mr. Hold to surprise Mr. Busch. Under the circumstances, Mr. Busch should forgive you. |

**Decision/Recommendation**

When visitors arrive without an appointment, they are often disappointed to learn that the person they want to see cannot see them. Use tact; that is, be very careful how you explain to them that the supervisor is not available. By applying good human relations skills, you can say *no* and still keep the good will of the visitor. This is a special, unusual situation, however – a good friend visiting from out of town. You may want to contact your supervisor, Mr. Busch, and inform him that an old friend from out of town is here to see him. Let your boss decide if he is able to fit Mr. Hold into his busy schedule.

(This is the decision made by the class.)

## III. Helping Students Apply Concepts/Principles/Skills

Give students the opportunity to decide the correct and appropriate way to screen visitors. Pair up the students and give them different office situations to act out in front of the entire class.

After each presentation, the class should analyze the given situation. Applying all the techniques and procedures they have studied in class, they should be able to evaluate and critique each role-playing situation. Be prepared to give additional instruction when problems arise. But let the students who perform the screening situation make the final decision. After each role-playing situation, hold a group discussion.

## IV. Evaluating Student Learning

Have students first analyze and write down their solution to the problem screening situation. Then pair up the students and have them role play their solution(s). Evaluate their logic, reasoning and judgment along with their final decision.

⑯

# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

| | |
|---|---|
| **PROGRAM:** **Work and Family Life**<br>**UNIT:** 4 - Nutrition and Wellness<br>**SUBUNIT:** N/A | **M.J. Holbrook, D. Linder,**<br>**D. Renner, N. Wood**<br>Instructors |

## Competency/Terminal Performance Objective

4.0.6 Prepare and serve nutritious meals and snacks, considering the dietary needs of certain family members. Recipes are to be modified according to criteria studied in class and recorded in student notebooks.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab kitchens | **Number/ Name** | # 14 | **Date** | Oct., week 4 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| X | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

4.0.6.4 Modify recipes to meet low cholesterol dietary needs when given a set of recipes and the needs of specific family members. All items on the performance assessment should receive an acceptable rating.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.2, 1.0.4, 1.0.6<br>2.0.2, 2.0.9, 2.0.14<br>3.0.1, 3.0.6, 3.0.11. 3.0.12 |
| Math: | 2.6.2, 2.6.3 |
| Science: | 5 |
| Safety: | 1, 2, 9, 12 |

## Equipment, Supplies, and Other Resources

1. cookbooks: *American Heart Association Cookbook*, 5th edition, 1991; *Prevention's Quick & Healthy Cooking*, Summer, 1992; and teacher recipe cards
2. chalkboard & chalk or overhead projector
3. Dairy Council resources on cholesterol; handout "How to Adapt Recipes" and what ingredients to substitute
4. cooking utensils and equipment as needed for recipe selected
5. groceries to prepare selected and modified recipe
6. case study of a family

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Westland High School**
**Work and Family Life**

**Forked Road**
(Problem-Solving Technique)

**Mary Jo Holbrook, Donna Linder, Debra Renner, Norma Wood**
(Instructors)

# I. Preparing to Teach

UNIT: 4 - Nutrition and Wellness
SUBUNIT: N/A

**Competency/Terminal Performance Objective**

4.0.6 Prepare and serve nutritious meals and snacks, considering the dietary needs of certain family members. Recipes are to be modified according to criteria studied in class and recorded in student notebooks.

**Competency Builders/Pupil Performance Objectives**

4.0.6.4 Modify recipes to meet low cholesterol dietary needs when given a set of recipes and the needs of specific family members. All items on the performance assessment should receive an acceptable rating.

**Integrating Academic Competencies**

Communications:
1.0.2 Select and use appropriate reference sources and illustrative materials when given the assignment.
1.0.4 Determine solutions to problems when selecting a recipe to find substitute ingredients that will lower cholesterol in the recipe.
1.0.6 Make predictions about information when using recipe sources.
2.0.2 Revise written material when rewriting a recipe with substituted ingredients.
2.0.9 Write legibly in the recipe revision.
2.0.14 Use correct spelling in the recipe revision.
3.0.1 Demonstrate effective listening skills when given verbal directions.
3.0.6 Follow directions in class to select and modify recipes as directed.

Math (Measurement):
2.6.2 Compute using appropriate units of measurement when reading and using the selected recipe.
2.6.3 Read scale on measurement device(s) to nearest mark and make interpolations where appropriate when using the measuring cups and spoons for wet and dry ingredients.

Science: 5 Explain the principles of nutrition as they relate to plants and animals, such as the need to lower cholesterol in the human diet.

Safety: 1 Prevent cuts and abrasions from tools and equipment while preparing ingredients for the selected recipe.
2 Prevent burns from fire, hot cooking utensils, etc. while using a cooking heat source.
9 Prevent electrical shock while using electric appliances.
12 Prevent damage to tools, equipment, and building facilities while preparing selected recipe.

## Lesson Outline *(continued)*

### Equipment, Supplies, and Other Resources

1. cookbooks: *American Heart Association Cookbook,* 5th edition, 1991; *Prevention's Quick & Healthy Cooking,* Summer, 1992; and teacher recipe cards
2. chalkboard & chalk or overhead projector
3. Dairy Council resources on cholesterol; handout "How to Adapt Recipes" and what ingredients to substitute
4. cooking utensils and equipment as needed for recipe selected
5. groceries to prepare selected and modified recipe
6. case study of a family

### Present Situation

This is a class of 24 Home Economics II students. They have all had previous food preparation experience with cooking techniques. They are familiar with the nutritional dietary guidelines and cholesterol levels of foods. However, they have not had to select and modify recipes for a person on a low-cholesterol diet.

### Interest Approach

(Place questions and student responses on chalkboard.)

"Tomorrow we are going to select cookbook recipes that can be modified for a low-cholesterol diet. We will look at a case study of a family with one member who needs a low-cholesterol diet."

**Q 1.** Can you think of any reasons a person would need to follow a low-cholesterol diet?

(Possible student responses)

1. To reduce or eliminate the risk of certain diseases.
2. To make you feel and look better.
3. To develop good eating habits for the future.
4.

"We are considering whether a family should follow a low-cholesterol diet."

**Q 2.** What criteria should we use in recommending that the family should or should not follow a low-cholesterol diet?

(Possible student responses)

1. Is someone willing to prepare separate meals for some of the family members?
2. Does the family want to improve their health by using a healthier diet?
3. Does someone in the family know how to select, modify and prepare low-cholesterol recipes?
4. Will the family have to give up most of the foods they are now eating?
5. Is the family willing to try new recipes?
6.

## II. Presenting the Lesson

**Define the Problem** **Forked Road**

(Place factors on chalkboard and ask for information related to each factor.)

**"Should the family in the case study follow a low-cholesterol diet?"**

| Factors to Consider | Choice One | Choice Two |
|---|---|---|
| | **Low-Cholesterol Diet** | **Regular Diet** |
| 1. Food flavors | Less flavorful | More flavorful |
| 2. Family effect | Family favorites will change, but better health will result. | Family favorites will remain unchanged. |
| 3. Willingness to prepare foods | Yes | Yes |
| 3. Cost | More expensive | Maintains current costs |
| 4. Preparation time | Similar time | No change |
| 5. Locate and adapt recipes | More time-consuming | No change |

**Decision/Recommendation**

The family should follow a low-cholesterol diet because it will be more healthful for all family members to develop good eating habits. The advantages of a low-cholesterol diet outweigh any disadvantages in changing from a regular diet.

## III. Helping Students Apply Concepts/Principles/Skills

Give students some additional case studies of different families and situations. Have them decide whether or not to recommend switching to a low-cholesterol diet. As a follow-up, students will select and modify recipes using the criteria given in class.

Have students plan a lab, making out a lab plan that includes the market order for groceries, the equipment needed, time schedule for preparation, and steps needed to follow the recipe.

A logical follow-up of this lesson would be the **key-steps** lesson (Technique 1) on adapting recipes to make them lower in cholesterol, plus the preparation of the resulting food item.

Have students demonstrate the application of food preparation techniques in preparing the selected recipe in their lab kitchens. They should use correct measuring techniques, cooking techniques, and table setting, eating, and clean-up procedures as defined in their class notebook.

## IV. Evaluating Student Learning

Evaluate students on their ability to decide if the case study warrants moving to a low-cholesterol diet for the entire family.

As students follow up the decision to change to a low-cholesterol diet for the family, they will adapt recipes for the family. Evaluate them on a lab performance checklist for recipe measurement, food preparation, table setting, evaluating recipe results, and lab clean-up.

Have students evaluate the product to determine if the recipe turned out as expected. Ask them what factors may have affected the results and how acceptable they feel the recipe is for replacement as a low-cholesterol choice in their diet.

⑰

## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

| | | |
|---|---|---|
| **PROGRAM:** | **Cosmetology** | **L. Hollingsworth**<br>Instructor |
| **UNIT:** | 10 - Hair Coloring | |
| **SUBUNIT:** | N/A | |

**Competency/Terminal Performance Objective**

10.0.1 Prepare client for hair color treatment in the salon by:

1. consultation.
2. educating client in daily care.
3. administering predisposition test.
4. selecting hair color formula.
5. applying strand test.
6. analyzing hair and scalp.
7. practicing safety.
8. completing a release statement and client record.

All procedures must be those given in an approved cosmetology textbook.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Cosmetology lab | **Number/ Name** | Room 114 | **Date** | Jan., weeks 3-4 |

**Strategies for Related Class and/or Laboratory (Activities, Rotation)**

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

**Competency Builders/Pupil Performance Objectives**

10.0.1.1 Consult client when provided access to reference materials. Follow procedures in approved cosmetology textbook.

**Integrating Academic Competencies**

| | |
|---|---|
| Communications: | 1.0.4, 3.0.1, 3.0.3, 3.0.8, 4.0.3 |
| Math: | N/A |
| Science: | 15 |
| Safety: | N/A |

**Equipment, Supplies, and Other Resources**

- approved standard cosmetology textbook
- color charts
- manufacturer's literature

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Eastland Career Center**
**Cosmetology**

| **Forked Road**<br>(Problem-Solving Technique) | **Liz Hollingsworth**<br>(Instructor) |
|---|---|

## I. Preparing to Teach

UNIT: 10 - Hair Coloring
SUBUNIT: N/A

### Competency/Terminal Performance Objective

10.0.1 Prepare client for hair color treatment in the salon by:
1. consultation.
2. educating client in daily care.
3. administering predisposition test.
4. selecting hair color formula.
5. applying strand test.
6. analyzing hair and scalp.
7. practicing safety.
8. completing a release statement and client record.

All procedures must be those given in an approved cosmetology textbook.

### Competency Builders/Pupil Performance Objectives

10.0.1.1 Consult client when provided access to reference materials. Follow procedures in approved cosmetology textbook.

### Integrating Academic Competencies

Communications:
1.0.4 Determine solutions to problems.
3.0.1 Demonstrate effective listening skills.
3.0.3 Communicate appropriately with clients.
3.0.8 Draw inferences and/or conclusions.
4.0.3 Participate in discussions.

Math: N/A
Science: 15 Explain the effects of chemicals when in contact with moisture and human tissue.
Safety: N/A

### Equipment, Supplies, and Other Resources

- approved standard cosmetology textbook
- color charts
- manufacturer's literature

## Lesson Outline *(continued)*

### Present Situation

The class consists of 19 Juniors. The students have discussed theory of color and categories of color in related class. Now they will put that knowledge to use by determining which category of color would be best for a particular situation.

### Interest Approach

(Place questions and student responses on chalkboard.)

**Q 1.** Why is it important to consult with the client before giving a hair color treatment?

a. To learn client's color preference
b. To determine client's skin tone
c. To learn about client's life-style

**Q 2.** What problems could occur if you do not consult with the client?

a. Unhappy client
b. Wrong color selection
c. Damaged hair

**Q 3.** What do we need to know to prevent a problem with the client's color results?

a. How to make a strand test
b. Color theory
c. Various color classifications, their advantages and disadvantages
d. Patron's preference, life-style, and grooming habits

## II. Presenting the Lesson

**Define the Problem**

**Forked Road**

(List factors and choices on chalkboard.)

When consulting with the client, you discover she would like to lighten her natural color and cover the gray hair. You must decide whether to recommend semi-permanent tint or permanent tint. (Communications 1.0.4, 3.0.1, 3.0.3, 3.0.8, 4.0.3)

**"Should I use the semi-permanent tint or the permanent tint?"**

| Factors to Consider | Choice One | Choice Two |
|---|---|---|
| | **Semi-permanent** | **Permanent** |
| 1. Possible shades to choose from | Rather limited variety of shades available | Wide range of shades available |
| 2. Characteristics of each | Will last 4-6 shampoos; fades gradually, so no retouch necessary | Remains until hair grows out; will need retouch every 3-4 weeks |
| 3. Predisposition test needed? (Safety 15) | Depends on manufacturer's directions | Yes |
| 4. Percentage of gray | Will blend the gray, but not completely cover it | Will cover the gray |
| 5. Final results | Cannot lighten beyond natural shade, as no peroxide is added | Can make hair lighter or darker than natural shade |

**Decision/Recommendation**

Permanent tint would be the best recommendation for this client. Two reasons for this choice are the coverage of gray hair and the ability for permanent tint to lighten the natural shade.

## III. Helping Students Apply Concepts/Principles/Skills

Have everyone in the class consider this situation together. Lead the discussion, but encourage the students to offer ideas and factors to consider. After the first example, divide students into groups of 3 or 4 and give each group another example to discuss. Have them record the results and present them to the class.

## IV. Evaluating Student Learning

Observe the groups in progress. Then give each individual student a case study for written evaluation.

(18)

## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

| | |
|---|---|
| **PROGRAM:** **Agricultural Business**<br>**UNIT:** 8 - Employability Skills<br>**SUBUNIT:** 8.13 - Entrepreneurship | **C. Reef**<br>Instructor |

### Competency/Terminal Performance Objective

8.13.2 Examine considerations of starting a business when given a choice of businesses. All items on the performance assessment should be rated acceptable.

| | | | |
|---|---|---|---|
| **Learning Center** | Related class | **Number/ Name** | **Date** Apr., week 4 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | X | 12. Project: Business Manual |

### Competency Builders/Pupil Performance Objectives

8.13.2.2 Compare various ways to become a small business owner by listing pros and cons of starting own business.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 2.0.5, 2.0.8, 2.0.9, 2.0.10, 2.0.12, 2.0.13, 2.0.14, 2.0.15, 2.0.17, 2.0.19<br>3.0.1, 3.0.10 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

### Equipment, Supplies, and Other Resources

- chalkboard & chalk
- notebook

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | X | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

| Eastland Career Center<br>Agricultural Business | |
|---|---|
| **Forked Road**<br>(Problem-Solving Technique) | **Cindy Reef**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 8 - Employability Skills
SUBUNIT: 8.13 - Entrepreneurship

**Competency/Terminal Performance Objective**

8.13.2 Examine considerations of starting a business when given a choice of businesses. All items on the performance assessment should be rated acceptable.

**Competency Builders/Pupil Performance Objectives**

8.13.2.2 Compare various ways to become a small business owner by listing pros and cons of starting own business.

**Integrating Academic Competencies**

Communications:

| | |
|---|---|
| 2.0.5 | Prepare first draft. |
| 2.0.8 | Develop main ideas supported by details and examples. |
| 2.0.9 | Write legibly. |
| 2.0.10 | Organize facts, details, and examples in logical order. |
| 2.0.12 | Demonstrate completeness in all written materials. |
| 2.0.13 | Use correct grammar. |
| 2.0.14 | Use correct spelling. |
| 2.0.15 | Write complete sentences. |
| 2.0.17 | Use paragraphing effectively. |
| 2.0.19 | Use appropriate punctuation and capitalization. |
| 3.0.1 | Demonstrate effective listening skills. |
| 3.0.10 | Organize ideas. |

Math: N/A
Science: N/A
Safety: N/A

**Equipment, Supplies, and Other Resources**

- chalkboard & chalk
- notebook

**Present Situation**

This class of 18 Seniors are all employed at an agricultural business as part of the program. One of them works at his family business.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

"Many of you have indicated that you dislike working for someone else – for an existing company. You say you want to be your own boss. What are the implications?

"Let's spend some time determining whether or not you are ready to own and run your own business."

**Q.** Why do you want to have your own business?

1. So I can be my own boss.
2. So I won't have to work for others.
3. So I can make my own decisions.
4. So I can take a vacation whenever I want.

## II. Presenting the Lesson

**Define the Problem**

**Forked Road**

(Place decision to be made on chalkboard.)

**"Should I start my own business or continue to work for someone else?"**

| Factors to Consider | Choice One | Choice Two |
|---|---|---|
| | **Start My Own** | **Work for Others** |
| 1. Financial output required | Money must have been invested or financial investors committed. | None required (beyond possible cost of uniform). |
| 2. Time involved | Many hours the first couple of years | A set schedule – easier to plan ahead; hours can often be adjusted to the individual. |
| 3. Education required | Higher education (beyond high school) usually needed at the start. | It's possible to work during high school, then keep the job while going to technical school or college part-time. |
| 4. Responsibility involved | Responsibility for all business decisions falls on the owner. | Student worker can give input to supervisor when asked. He/She often has a part in department decisions, but not full responsibility for them. |

**Decision/Recommendation**

Due to the financial commitment, time involved, education requirement, and added responsibility, it is best at present to work for another company. When further education has been completed and money saved, the student can reevaluate whether or not to start his/her own business.

## III. Helping Students Apply Concepts/Principles/Skills

Ask students to develop a Business Manual for a business they want to start some day. This will start them developing a business idea and business plan.

## IV. Evaluating Student Learning

Evaluate student performance by checking the following:

1. the students' notes in their notebooks
2. their completed Business Manuals

⑲ **INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY**

| | | |
|---|---|---|
| **PROGRAM:** | **GRADS** | **T. Branham**<br>Instructor |
| **UNIT:** | 2 - Pregnancy | |
| **SUBUNIT:** | 2.2 - Postnatal Care | |

**Competency/Terminal Performance Objective**

2.2.2 Explain (accurately) for a given newborn conditions, responses, initial hospital care, safety, and resources.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | Room 203 | **Date** | 4th week |

**Strategies for Related Class and/or Laboratory (Activities, Rotation)**

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided Instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

**Competency Builders/Pupil Performance Objectives**

2.2.2.4 Explain (accurately) initial post-delivery care of a newborn, using current, reliable resources. Explanation should include APGAR test, triage nursery observations and procedures, and circumcision.

**Integrating Academic Competencies**

| | |
|---|---|
| Communications: | 3.0.1, 3.0.9, 4.0.3 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

**Equipment, Supplies, and Other Resources**

1. chalkboard & chalk
2. chart on circumcision
3. handout on circumcision
4. decision handout

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Eastland Vocational School**
**GRADS**

| | |
|---|---|
| **Forked Road**<br>(Problem-Solving Technique) | **Teresa Branham**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 2 - Pregnancy
SUBUNIT: 2.2 - Postnatal Care

**Competency/Terminal Performance Objective**

2.2.2 Explain (accurately) for a given newborn conditions, responses, initial hospital care, safety, and resources.

**Competency Builders/Pupil Performance Objectives**

2.2.2.4 Explain (accurately) initial post-delivery care of a newborn, using current, reliable resources. Explanation should include APGAR test, triage nursery observations and procedures, and circumcision.

**Integrating Academic Competencies**

Communications:
- 3.0.1 Demonstrate effective listening skills.
- 3.0.9 Distinguish between fact and opinion.
- 4.0.3 Participate in discussions.

Math: N/A
Science: N/A
Safety: N/A

**Equipment, Supplies, and Other Resources**

1. chalkboard & chalk
2. chart on circumcision
3. handout on circumcision
4. decision handout

**Present Situation**

The composition of this class changes from week to week. There are usually 6-8 students, both pregnant and parenting. The students are at very different levels of experience and knowledge about newborns.

**Lesson Outline** *(continued)*

**Interest Approach**

"How many of you pregnant students and fathers know the sex of your baby?" (Ask students to raise hands.) "How many of you are going to have boys? girls? Those of you who have boy babies will be asked soon after birth a very important question, 'Do you want to have your son circumcised?'

"What are some of the factors you should consider when deciding whether or not to have your son circumcised?" (List student responses on board. Responses are summarized below.)

"Before we discuss what decision you have made, let's take a few minutes to scan this handout of opinions about circumcision." (Highlight a few comments.) "Which letter most closely matches your opinion?" (Have students share their analysis of the letters.)

## II. Presenting the Lesson

**Define the Problem** **Forked Road**

(Place decision to be made on chalkboard.)

**"Should I have my baby boy circumcised or not?"**

| Factors to Consider | Choice One | Choice Two |
|---|---|---|
| | Circumcised | Not Circumcised |
| 1. Baby's comfort | 1. Painful; anesthesia risky | 1. No discomfort now; but if doctor decides circumcision is needed later in life, then much more painful. |
| 2. Baby's health | 2.<br>a. Less chance of penile cancer<br>b. Less chance of cervical cancer in baby's future partner<br>c. Less chance of urinary tract infections | 2.<br>a. More chance of penile cancer<br>b. More chance of cervical cancer in baby's future partner<br>c. More chance of urinary tract infections |
| 3. Baby's hygiene | 3. More care needed as newborn, but less care after healing | 3. Careful cleansing needed all through life |
| 4. Baby's appearance | 4. Depends on the family | 4. Depends on the family |
| 5. Religious custom | 5. Jewish boys must be circumcised on the 8th day. | 5. N/A |

**Decision/Recommendation**

Each student must make her own decision based on personal values, goals, and situational factors.

## III. Helping Students Apply Concepts/Principles/Skills

Ask each student to complete a handout on her decision regarding circumcision. Include the following on the handout:

1. My decision regarding circumcision
2. Why I decided this
3. Other people involved (like baby's father, grandparents) who are in agreement with my decision
4. The information I shared with these other people involved

Finally, ask each student to answer this question:

5. If you and others are not in agreement, how will you reach a decision that is agreeable to both you and them?

## IV. Evaluating Student Learning

After the birth of the baby boy, ask the student (mother, and father if present) if she followed through with her decision. Ask her whether she and the others involved are satisfied with the decision she made.

## Summary of Forked Road Situation

### Presenting the Lesson

This problem-solving technique, used in planning and teaching a specific topic, involves only two choices for the student in solving his/her problem or in making a decision. Write your lesson plan based on the related facts about each choice and the evaluation of these facts as they relate to the two choices.

Up-to-date information is essential so that students can identify needed facts relating to the two choices. Supervised study cannot be effective without up-to-date, pertinent data copied so that each student has access to the information. No more than two students should have to share the printed material.

### Helping Students Apply Concepts/Principles/Skills

When students have evaluated facts related to the two choices of the Forked-Road technique, the "application" phase takes place as they make one choice as being the best decision or solution to the problem.

Application also takes place when a student applies this problem-solving technique to his/her own situation when faced with only two choices or solutions to the problem.

### Evaluating Student Learning

Student learning can be evaluated when the choice of #1 or #2 as the solution to the problem has been made. If you asked each student to write his/her choice on a piece of paper before class, you can now tell whether or not each student is thinking "properly." If a student makes the "wrong" decision, you may want to review with him/her the chart "Causes of Wrong Decisions." Help the student discover why he/she made an inappropriate decision.

Evaluation of student learning can also take place as students apply the **Forked-Road** problem-solving technique to solving their own personal problems and making their own decisions.

# Technique 3: Possibilities-Factors Situation

**Q 1** What is the nature of this problem-solving technique?

1. There are several (more than two) possible solutions to the problem or options to choose from.

2. There are several factors to consider for each possible solution or option.

3. The facts related to each possible solution or option are identified.

4. The facts are evaluated and a solution or option decided upon.

**Q 2** What are the steps to follow in this **possibilities-factors** problem-solving procedure?

1. In the *Situation* part of the lesson plan, the problem setting is given and the situation leading to the problem or choice to be made is explained.

2. An *Interest Approach* to the lesson is needed. The teacher needs to help the students see the need to obtain a solution to the problem, or to make an appropriate choice among several options.

3. The *Problem Statement* should be developed with the students and placed on the chalkboard. Actual student names/situations should be used, if possible. (See sample chalkboard format on next page.)

4. The different *Possibilities* (or choices) for solving the problem are identified and placed on the chalkboard. (See sample format on the next page for a *Possibilities-Factors* chart).

5. There are *Factors That Need to Be Considered* for each of the possibilities. These need to be identified and placed on the chalkboard.

6. Identify the *Facts* for each factor and possibility. The facts are written in the appropriate box on the chart. Supervised study must be provided for the students. Appropriate references are needed to supply the necessary facts.

7. *Evaluate the Facts* and arrive at a tentative solution or choice of options.

8. Place the final *Solution or Option* on the chalkboard.

9. While situations of other students will differ, many situations (problems, choices) necessitate choosing one of several possible solutions or options. Once the student has learned the procedure for choosing the most appropriate course of action, he/she can apply it to similar situations.

# SAMPLE CHALKBOARD FORMAT

**Define the Problem**

**Possibilities-Factors**

Problem statement: ____________________

| **Factors to Consider** | **Possibilities** | | |
|---|---|---|---|
| | **Option 1** | **Option 2** | **Option 3** |
| 1. __________ | | | |
| 2. __________ | | | |
| 3. __________ | | | |
| 4. __________ | | | |
| 5. __________ | | | |

**Decision/Recommendation**

The facts related to each factor and possibility are determined and placed in the appropriate block. When the chart is completed, the students are asked to evaluate the facts and make a choice of options, which lead to a decision or recommendation.

⑳

# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Precision Machining Technologies**
**UNIT:** 7 - Drilling Machines
**SUBUNIT:** N/A

**J. Cooke**
Instructor

## Competency/Terminal Performance Objective

7.0.3 Mount workpiece securely and safely in a typical lab situation. Follow proper and safe work procedures recommended by the manufacturer of the work-holding device.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab, classroom | **Number/ Name** | | **Date** | Sept., week 3 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

7.0.3.1 Select work-holding device best suited for the workpiece being machined. Follow manufacturer's recommendations for proper usage.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.2, 3.0.1 |
| Math: | N/A |
| Science: | 9 |
| Safety: | 12 |

## Equipment, Supplies, and Other Resources

1. drilling machine
2. drill vise
3. vee blocks
4. wrenches
5. hold-down bolts
6. hold-down clamp set
7. angle plate
8. manufacturer's reference materials (Operator's Manual and handouts D-3 and D-4 on mounting workpieces)

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Hayes Technical Vocational School**
**Precision Machining Technologies**

| | |
|---|---|
| **Possibilities-Factors**<br>(Problem-Solving Technique) | **Jack Cooke**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 7 - Drilling Machines
SUBUNIT: N/A

## Competency/Terminal Performance Objective

7.0.3 Mount workpiece securely and safely in a typical lab situation. Follow proper and safe work procedures recommended by the manufacturer of the work-holding device.

## Competency Builders/Pupil Performance Objectives

7.0.3.1 Select work-holding device best suited for the workpiece being machined. Follow manufacturer's recommendations for proper usage.

## Integrating Academic Competencies

Communications:
1.0.2 Select and use appropriate reference sources and illustrative materials.
3.0.1 Demonstrate effective listening skills.
Math: N/A
Science: 9 Explain the principles of simple machines.
Safety: 12 Prevent damage to tools, equipment, building facilities, etc.

## Equipment, Supplies, and Other Resources

1. drilling machine
2. drill vise
3. vee blocks
4. wrenches
5. hold-down bolts
6. hold-down clamp set
7. angle plate
8. manufacturer's reference materials (Operator's Manual and handouts D-3 and D-4 on mounting workpieces)

## Present Situation

This class consists of 17 Juniors, all of them certified in safe and proper operational procedures of the drill press. We have viewed training films showing the various work-holding attachments and their specific uses.

Each student has been given a workpiece and must decide on the best method to clamp and hold the workpiece while performing the drilling operation.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

"You are in a typical lab setting and the instructor walks up to you and gives you a workpiece. You are instructed to drill a hole in it in accordance with print specifications. What are some of the things you would have to consider when deciding how to hold the workpiece for the machining operation?"

## II. Presenting the Lesson

**Define the Problem**

**Possibilities-Factors**

(The student is given a workpiece and told to drill a hole in it. He/She must decide which holding device would be best to use in this situation.)

**"Which work-holding device should I use?"**

| Factors to Consider | Possibilities | | | |
|---|---|---|---|---|
| | Drill Vise | Vee Blocks | Angle Plate | Hold-down Clamps |
| 1. Can the piece be held by this type of work-holding device? | work too large | wrong shape | wrong shape | best choice |
| 2. Will the shape of the piece prevent it from being clamped properly? | yes | yes | yes | no |
| 3. Will the work-holding device allow you to machine a blind hole or through hole? | both | both | both | both |
| 4. Will this provide a safe and rigid setup? | no | no | no | yes |

**Decision/Recommendation**

"We should use the hold-down clamp method because of the size and shape of the workpiece and also because of the limitations of the other work-holding devices in this situation."

## III. Helping Students Apply Concepts/Principles/Skills

Give the students workpieces in assorted sizes and shapes. Ask each student to determine what work-holding device is best to use for the given workpiece. Check each setup for safety and determine if the student chose the best work-holding device. Be prepared to assist any student who needs help.

## IV. Evaluating Student Learning

Evaluate students on a daily basis to ensure that proper and safe setup procedures are being followed.

Make sure that each student demonstrates to you FIRST that he/she is competent in selecting and setting up the correct work-holding device before beginning the job.

## ㉑ INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Animal Care**
**UNIT:** X - Disease and Parasite Control
**SUBUNIT:** X.X - C - Controlling Exoparasites

**P. Collins**
Instructor

### Competency/Terminal Performance Objective

X.X.X Choose appropriate flea extermination method when given a situation involving an infected animal and its premises. Decision should be correct when appropriate factors and correct information have been considered.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | | **Date** | Jan., one day |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

X.X.X.1 Identify three ways to eliminate fleas when given a situation involving an infected animal. Identification should meet criteria studied in class.
X.X.X.2 Verbally explain factors to consider when choosing an extermination method. Explanation should be logical and accurate based on material studied in class.
X.X.X.3 Choose an extermination method suitable for the given situation. Choice should meet criteria studied in class.

### Integrating Academic Competencies

Communications:
Reading: 1.0.2, 1.0.4, 1.0.5, 1.0.6, 1.0.7, 1.0.11
Writing: 2.0.9, 2.0.14
Listening: 3.0.1, 3.0.3, 3.0.7
Speaking: 4.0.3, 4.0.12

Math: N/A
Science: N/A
Safety: N/A

### Equipment, Supplies, and Other Resources

1. photos of fleas and their effects
2. garlic
3. quantity of brewer's yeast
4. several samples of commercial spray products recommended for flea control
5. references, pamphlets, Extension Service bulletins on pet disease and parasite control

*(continued)*

**Schedule** *(continued)*

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| X | 2. Oral quiz | X | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Toledo Ag. Ed. Center**
**Animal Care**

| **Possibilities-Factors**<br>(Problem-Solving Technique) | **Penny Collins**<br>(Instructor) |
|---|---|

# I. Preparing to Teach

UNIT: X - Disease and Parasite Control
SUBUNIT: X.X - C - Controlling Exoparasites

## Competency/Terminal Performance Objective

X.X.X Choose appropriate flea extermination method when given a situation involving an infected animal and its premises. Decision should be correct when appropriate factors and correct information have been considered.

## Competency Builders/Pupil Performance Objectives

X.X.X.1 Identify three ways to eliminate fleas when given a situation involving an infected animal. Identification should meet criteria studied in class.
X.X.X.2 Verbally explain factors to consider when choosing an extermination method. Explanation should be logical and accurate based on material studied in class.
X.X.X.3 Choose an extermination method suitable for the given situation. Choice should meet criteria studied in class.

## Integrating Academic Competencies

Communications:
Reading:
1.0.2 Select and use appropriate reference sources and illustrative materials.
1.0.4 Determine solutions to problems.
1.0.5 Identify details such as who, what, why, where, when, or how.
1.0.6 Make predictions about information.
1.0.7 Cite details that support or do not support predictions.
1.0.11 Differentiate facts and opinions.
Writing:
2.0.9 Write legibly.
2.0.14 Use correct spelling.
Listening:
3.0.1 Demonstrate effective listening skills.
3.0.3 Communicate appropriately with coworkers, clients, and supervisors.
3.0.7 Evaluate spoken communications.
Speaking:
4.0.3 Participate in discussions.
4.0.12 Use appropriate language.
Math: N/A
Science: N/A
Safety: N/A

*(continued)*

## Lesson Outline *(continued)*

### Equipment, Supplies, and Other Resources

1. photos of fleas and their effects
2. garlic
3. quantity of brewer's yeast
4. several samples of commercial spray products recommended for flea control
5. references, pamphlets, Extension Service bulletins on pet disease and parasite control

### Present Situation

Many of this class of Animal Care students, who are in their Junior year, have pets of their own. Some have had a recurring flea problem with their pets, but have not dealt with the problem effectively. Some are not aware of the various control methods.

### Interest Approach

(Place questions and student responses on chalkboard.)

"A few days ago Julie was telling me about the problem she is having with her cat – supposedly fleas. She says her cat began to display symptoms of flea infestation after it got out of the house by accident, even though it never left her lawn. Julie wants to get rid of the fleas because of the damage to her cat's health. Besides, the cat is an indoor cat, and no one wants fleas in the house. She used some of the spray they had left from last year, but wonders if it is the best thing to use. She has asked us to help her choose the most effective and economical method of getting rid of the fleas. She couldn't bring her cat to class on the city bus, so I'm showing you these photos of the damage fleas can do to cats and dogs. Her cat has these symptoms." (Display photos.)

"Let's take a few moments and identify some possible methods of flea control. Then we can help Julie choose the most effective method." (Develop chart through questioning and with use of references during supervised study.)

## II. Presenting the Lesson

**Define the Problem** **Possibilities-Factors**

**"What is the most effective method of flea control for Julie to use?"**

| **Factors to Consider** | **Possibilities** | | |
|---|---|---|---|
| | **Brewer's Yeast** | **Garlic** | **Commercial Sprays** |
| 1. Cost | minimal | minimal | expensive |
| 2. Ease of method | daily, weekly dose | daily | should be knowledgeable about pesticides |
| 3. Safety of product | may cause digestive upset or hair loss if overused | safe | could be toxic |
| 4. Effectiveness | repels fleas | repels fleas | kills fleas; interrupts life cycle |

**Decision/Recommendation**

Julie should first try garlic, the most economical method. After two weeks, if no results, try brewer's yeast. If no results or if health problems occur, use a commercial spray.

## III. Helping Students Apply Concepts/Principles/Skills

Distribute several commercial sprays among the students. Have them read to the class the directions and warnings on the labels. List on the chalkboard the general safety rules in using commercial sprays. Ask Julie to report to the class each day what progress she has made in getting rid of the fleas.

## IV. Evaluating Student Learning

Divide the class into study groups of five members each. Have the group members ask each other study questions concerning the three methods discussed in class. They should also discuss what safety measures to follow in using all the products discussed. After ten minutes of group work, give the students a written quiz on the material studied that day.

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Landscape Design and Management**
**UNIT:** X - Nursery Operations
**SUBUNIT:** X.X - Landscape Plantings

**K. McCann**
Instructor

**Competency/Terminal Performance Objective**

X.X.X Harvest landscape plants when given a specific tree or shrub. All items on the performance assessment should be rated acceptable.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Outdoor lab, classroom | **Number/ Name** | | **Date** | Nov., week 2, one day |

**Strategies for Related Class and/or Laboratory (Activities, Rotation)**

After a short orientation session in classroom, I will take the students to the back of the Agriculture Center by the honeylocust tree. We will discuss the most appropriate method to use to relocate the honeylocust tree. We will return to the classroom for completion of the discussion.

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| X | 5. Individual research | X | 11. Case problem(s) |
| X | 6. Field trip(s) | | 12. Other |

**Competency Builders/Pupil Performance Objectives**

X.X.X.1 Choose a harvesting/transplanting method when given a specific tree or shrub. All items on the performance assessment should be rated acceptable.

X.X.X.2 Identify and explain harvesting and transplanting methods used for landscape plants. Response should correlate with methods studied in class.

**Integrating Academic Competencies**

| | | |
|---|---|---|
| Communications: | Reading: | 1.0.2, 1.0.4, 1.0.5, 1.0.6, 1.0.7, 1.0.11 |
| | Writing: | 2.0.9, 2.0.14 |
| | Listening: | 3.0.1, 3.0.3, 3.0.7 |
| | Speaking: | 4.0.3, 4.0.12 |
| Math: | 3.6.6 | |
| Science: | N/A | |
| Safety: | N/A | |

**Equipment, Supplies, and Other Resources**

- chalkboard & chalk
- *The Nursery Worker* Student Manual

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Toledo Ag. Ed. Center**
**Landscape Design and Management**

| | |
|---|---|
| **Possibilities-Factors**<br>(Problem-Solving Technique) | **Kevin McCann**<br>(Instructor) |

# I. Preparing to Teach

UNIT: X - Nursery Operations
SUBUNIT: X.X - Landscape Plantings

**Competency/Terminal Performance Objective**

X.X.X Harvest landscape plants when given a specific tree or shrub. All items on the performance assessment should be rated acceptable.

**Competency Builders/Pupil Performance Objectives**

X.X.X.1 Choose a harvesting/transplanting method when given a specific tree or shrub. All items on the performance assessment should be rated acceptable.
X.X.X.2 Identify and explain harvesting and transplanting methods used for landscape plants. Response should correlate with methods studied in class.

**Integrating Academic Competencies**

Communications:

| | | |
|---|---|---|
| Reading: | 1.0.2 | Select and use appropriate reference sources and illustrative materials. |
| | 1.0.4 | Determine solutions to problems. |
| | 1.0.5 | Identify details such as who, what, why, where, when, or how. |
| | 1.0.6 | Make predictions about information. |
| | 1.0.7 | Cite details that support or do not support predictions. |
| | 1.0.11 | Differentiate facts and opinions. |
| Writing: | 2.0.9 | Write legibly. |
| | 2.0.14 | Use correct spelling. |
| Listening: | 3.0.1 | Demonstrate effective listening skills. |
| | 3.0.3 | Communicate appropriately with coworkers, clients, and supervisors. |
| | 3.0.7 | Evaluate spoken communications. |
| Speaking: | 4.0.3 | Participate in discussions. |
| | 4.0.12 | Use appropriate language. |
| Math: | 3.6.6 | Use problem-solving techniques. |
| Science: | N/A | |
| Safety: | N/A | |

**Equipment, Supplies, and Other Resources**

- chalkboard & chalk
- *The Nursery Worker* Student Manual

**Present Situation**

This is a class of 13 Seniors who have little or no experience harvesting or transplanting landscape plants such as trees and shrubs.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

Take students to the back of the Agriculture Center where there is a 4-inch-diameter honeylocust tree. Show students where the plant is to be relocated on the school grounds. Ask the question, "What is the most appropriate method to use to get this tree from its present location to the new location?"

(Possible student responses)

1. Use a crane, since it is so big.
2. Dig around it with a backhoe; then put burlap around the ball of soil and roots.
3. Dig around it with a shovel; then put burlap around it like we see done at nurseries.
4. Use one of those mechanical diggers mounted on a truck – one that looks like four giant spades going into the ground.
5. Use a truck to haul it after we dig it up.
6.

"You have suggested several ways to remove the tree from where it is and move it to the new location over there by the west property line. Let's go back to the classroom now and write on the chalkboard your suggestions as to possible methods to use in relocating the tree. Then we can identify some factors we need to consider before deciding which method to use."

## II. Presenting the Lesson

**Define the Problem**

Back in the classroom, ask the students, "What were the various methods you suggested we could use to move the honeylocust tree?"

Write the methods they suggested on the chalkboard as the beginning of a Possibilities-Factors chart. Then ask, "Now, what are some of the factors/things/information we need to consider in order to make our decision as to the method to use?" (List these factors on the chalkboard.)

"How can we make sure that we have identified all reasonable methods of relocating the tree and considered all the necessary factors before we decide which method to use?"

(Possible student responses)

1. We could look in our textbook.
2. We could take a field trip to Acme Nursery and ask them about it.
3. We could phone the manager of the nursery.
4. Teacher, you could tell us! Then we wouldn't have to do the thinking and reading.
5.

"All are reasonable ways of checking our work (except #4!). Let's look at the first suggestion. Refer to your textbook, ***The Nursery Worker***, for the section on transplanting nursery stock. (You'll find it listed in the Contents.)"

After the class has completed the reading assignment, develop the Possibilities-Factors chart with the students' input.

*(continued)*

**Define the Problem** *(continued)*

**Possibilities-Factors**

**"What is the best method of harvesting/transplanting this honeylocust?"**

| Factors to Consider | Possible Methods of Relocating Tree | | |
|---|---|---|---|
| | B & B | B & R | Mechanical |
| 1. Labor costs | high | low | low |
| 2. Material costs | moderate | low | moderate to high |
| 3. Equipment costs | low | low | high |
| 4. Moving after digging | difficult | moderate | easy |
| 6. Skill development | difficult | moderate | easy |

(Hand each student a sheet of paper.)

"Now that you have information about each method, I'd like each of you to write down your decision as to the method of relocation we ought to use. Give reasons why you chose the particular method."

When the students have done this, collect the papers and tally their choices on the chalkboard (like recording votes). Or you could have students volunteer to present their decisions orally, along with their reasons, and have the class arrive at a consensus.

Write on the chalkboard following the chart:

**Decision/Choice of the Class**

We recommend the use of mechanical digging to relocate the tree. Mechanical digging is expensive, but the ease of moving the plant after it is dug makes up for the cost.

## III. Helping Students Apply Concepts/Principles/Skills

Give students opportunities to harvest a variety of plants using the different methods. They will experience the positive and negative aspects of each method. This will allow them to develop an understanding of how to choose the correct method in different situations.

## IV. Evaluating Student Learning

Give students different plants and choices to make concerning which harvesting/relocating method will be most appropriate for each. Evaluate each student's decision along with his/her logic and reasoning (reasons for choice made).

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# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **IBE Word Processing**
**UNIT:** 5 - Support Tasks
**SUBUNIT:** N/A

**J. Schoener**
Instructor

## Competency/Terminal Performance Objective

5.0.6 Coordinate travel plans when given a travel situation. Plans will be prepared according to traveler's specifications and guidelines studied in class.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | IBE - 68 | **Date** | Feb., week 1 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| X | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

5.0.6.3 Arrange necessary transportation and lodging when given travel resources and traveler's preferences. The budget and tentative travel plans should be according to the traveler's specifications.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 3.0.1, 3.0.11<br>4.0.2, 4.0.3, 4.0.7, 4.0.8, 4.0.10, 4.0.12 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

## Equipment, Supplies, and Other Resources

1. *Office Systems and Procedures* textbook
2. chapter outline
3. telephone book
4. Official Airline Guide
5. pen or pencil
6. paper
7. chalkboard & chalk

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | X | 9. Written report(s) |
| | 5. Written unit test | | |

## Franklin Heights High School
## IBE Word Processing

| | |
|---|---|
| **Possibilities-Factors**<br>(Problem-Solving Technique) | **Jill Schoener**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 5 - Support Tasks
SUBUNIT: N/A

### Competency/Terminal Performance Objective

5.0.6 Coordinate travel plans when given a travel situation. Plans will be prepared according to traveler's specifications and guidelines studied in class.

### Competency Builders/Pupil Performance Objectives

5.0.6.3 Arrange necessary transportation and lodging when given travel resources and traveler's preferences. The budget and tentative travel plans should be according to the traveler's specifications.

### Integrating Academic Competencies

Communications:

| | |
|---|---|
| 3.0.1 | Demonstrate effective listening skills. |
| 3.0.11 | Evaluate nonverbal messages. |
| 4.0.2 | Use nonverbal messages. |
| 4.0.3 | Participate in discussions. |
| 4.0.7 | Give telephone messages. |
| 4.0.8 | Give oral directions. |
| 4.0.10 | Give clear explanations. |
| 4.0.12 | Use appropriate language. |

Math: N/A
Science: N/A
Safety: N/A

### Equipment, Supplies, and Other Resources

1. *Office Systems and Procedures* textbook
2. chapter outline
3. telephone book
4. Official Airline Guide
5. pen or pencil
6. paper
7. chalkboard & chalk

### Present Situation

This Intensive Business Education (IBE) class consists of 15 Juniors. The class is currently working on a unit covering Administrative Support Responsibilities. They have been tested on chapters covering meeting/greeting people and how to schedule appointments. All students have a general understanding (the basics) of the responsibilities of an administrative assistant.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

"So far in this unit we have discussed in great detail that when you work in an office, your office support responsibilities may include some public relations duties. Meeting and greeting customers, clients, sales representatives, and job applicants can be interesting and rewarding work. We also learned that people do not like to waste time; they do not like to be kept waiting. People avoid long lines at theaters, crowded restaurants, and stores where service is slow. Most people try to reduce waiting time by making appointments to conduct their business.

"Now we want to discuss how to schedule travel plans. It is not unusual these days for a person to fly several hundred miles or more on business to attend a meeting or visit a customer. If your supervisor has to travel to another city, you may be asked to help plan the trip and to make travel and hotel reservations."

**Q** What information do you need in order to make travel arrangements for your boss?

(Possible student responses)

1. Where is your boss going?
2. On what date and at what time is he/she going?
3. How does he/she want to travel?
4. What airline does he/she prefer?
5. What class of flight does your boss prefer?
6. Are you limited in the amount of money you can spend?
7. How will you pay?
8. Do you have to get the tickets before the trip?
9.

## II. Presenting the Lesson

### Define the Problem

### Possibilities-Factors

Your boss says, "As my secretary, be advised that I am planning a business trip to California to attend a WordPerfect seminar. I want to leave November 4 (getting there by noon) and return November 7 (and be home by 9:00 p.m.). Hotel accommodations and car rental have already been taken care of. However, I need you to book a flight for the trip. Since this is a company trip, I want to be able to write off all my expenses."

**"What is the best possible flight for your boss so that he can write off all expenses?** What information and contributing factors must you consider before you book that flight?"

| Factors to Consider | Possibilities | | |
|---|---|---|---|
| | First Class | Tourist Class | Special Fares/ Packages |
| 1. Employer's preference | 3rd choice | 2nd choice | 1st choice |
| 2. Airline preference | TWA | Delta | US Air |
| 3. Cost of ticket* | most expensive | very economical | good deal when available |
| 4. Method of payment | employer splits cost with the company | paid by company account | paid by company account |
| 5. Ticket delivery | delivered to office by messenger | pick up at ticket window at airport | pick up at ticket window at airport |

* Supervised study needed for related information

### Decision/Recommendation

"We have analyzed and discussed the alternatives that are available. Now I want each of you to identify which method of air travel you would use and why."

After the students have completed their papers, have a group discussion analyzing and comparing their answers.

"Here's a summary of your excellent decision-making. Since your boss wants to write off all the expenses for this trip, the two methods of air travel that would best suit this situation are tourist class and the special fares/packages. Since special fares/packages are usually for a week or include weekend travel, you are not likely to find one that will accommodate your boss's schedule. In this situation, tourist class would be the best choice."

## III. Helping Students Apply Concepts/Principles/Skills

Give students situations like the one you worked on together in class. Have them contact travel agencies and the airport. Also have them consult the Official Airline Guide to complete the questions and solve the problem in each situation. This experience will help them understand how to choose the correct method in different situations. It will also help them identify all the factors that must be considered when making travel plans.

## IV. Evaluating Student Learning

Use the following items and suggested points to evaluate student performance in this lesson.

| | |
|---|---|
| Chapter notes/outline | 10 points |
| Class problem/solution | 20 points |
| Individual problem/solution | 20 points |
| End of the chapter questions | 10 points |
| Chapter quiz | 20 points |
| Unit test | 20 points |
| | 100 points |

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# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Cosmetology**
**UNIT:** 11 - Hair Lightening and Toning
**SUBUNIT:** N/A

**L. Hollingsworth**
Instructor

## Competency/Terminal Performance Objective

11.0.2 Give hair-lightening and toning treatments for a given client when provided access to reference materials and technician assistance. Follow teacher-prepared performance checklist(s) developed according to approved cosmetology textbook and OSBC guidelines. All hair lightening and toning treatments must meet with client's satisfaction.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Cosmetology lab | **Number/ Name** | Room 114 | **Date** | Feb., week 2 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | X | 12. Other - Strand tests |

## Competency Builders/Pupil Performance Objectives

11.0.2.6 Select products and apply hair lightener retouch for a given client when provided access to reference information. Follow procedures in approved cosmetology textbook and manufacturer's directions. All applications must meet with client's satisfaction.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.2, 2.0.3, 2.0.4, 2.0.9, 3.0.6 |
| Math: | 1.6.5 |
| Science: | 15 |
| Safety: | 5 |

## Equipment, Supplies, and Other Resources

1. three types of bleach
2. $H_2O_2$
3. mixing bowls and brush
4. manufacturer's directions
5. gloves
6. paper & pencil
7. *Standard Cosmetology Textbook*, pages 260-261

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | X | 9. Written report(s) |
| | 5. Written unit test | | |

## Eastland Career Center
## Cosmetology

| **Possibilities-Factors**<br>(Problem-Solving Technique) | **Liz Hollingsworth**<br>(Instructor) |
|---|---|

# I. Preparing to Teach

UNIT: 11 - Hair Lightening and Toning
SUBUNIT: N/A

### Competency/Terminal Performance Objective

11.0.2 Give hair-lightening and toning treatments for a given client when provided access to reference materials and technician assistance. Follow teacher-prepared performance checklist(s) developed according to approved cosmetology textbook and OSBC guidelines. All hair lightening and toning treatments must meet with client's satisfaction.

### Competency Builders/Pupil Performance Objectives

11.0.2.6 Select products and apply hair lightener retouch for a given client when provided access to reference information. Follow procedures in approved cosmetology textbook and manufacturer's directions. All applications must meet with client's satisfaction.

### Integrating Academic Competencies

Communications:
- 1.0.2 Select and use appropriate reference sources and illustrative materials.
- 2.0.3 Record observations.
- 2.0.4 Prepare written report.
- 2.0.9 Write legibly.
- 3.0.6 Follow directions.

Math: 1.6.5 Set up, solve, and apply ratios and proportions.
Science: 15 Explain the effects of chemicals when in contact with moisture and human tissue.
Safety: 5 Prevent conditions causing chemical damage to the human body, clothing, and similar items.

### Equipment, Supplies, and Other Resources

1. three types of bleach
2. $H_2O_2$
3. mixing bowls and brush
4. manufacturer's directions
5. gloves
6. paper & pencil
7. *Standard Cosmetology Textbook*, pages 260-261

### Present Situation

The class consists of 19 Juniors. The students have studied hair coloring (adding color); now we begin hair lightening (removing color). They will need to know types of lighteners and when to use each type.

## Lesson Outline *(continued)*

### Interest Approach

(Place the two questions and the student responses on chalkboard.)

The unit on hair coloring refers to adding artificial pigment to the hair. Sometimes a client wants to lighten the natural color of hair (remove pigment). This involves different procedures and products.

**Q 1.** What problems could occur if you do not use the correct product when bleaching hair?

(Possible student responses)

1. The hair may not be light enough.
2. The hair may get too light.
3. The hair may become too porous.
4. The scalp may become irritated.
5. The process could take too long.
6.

**Q 2.** How could you prevent these problems?

(Possible student responses)

1. Choose the correct type of bleach.
2. Learn characteristics of each type of bleach.
3.

## II. Presenting the Lesson

**Define the Problem**

**Possibilities-Factors**

**"Which type of bleach would be the best choice for giving a bleach retouch?"**

| Factors to Consider | Possibilities | | |
|---|---|---|---|
| | **Oil** | **Cream** | **Powder** |
| 1. strength | mild | medium | strong |
| 2. processing time | slower | average | faster |
| 3. lifting action | slight | average | high |
| 4. use on the scalp? | yes | yes | no |
| 5. purpose | pre-soften or mild bleaching | any bleaching | special effects - frosting |
| 6. effect on hair and scalp | usually no problem | may irritate scalp; hair O.K. | irritates scalp; leaves hair more porous |

**Note:** Supervised study will be required to obtain information about each possibility and the related factors to consider.

**Decision/Recommendation**

Cream bleach would be the best choice because it can be used on the scalp for a retouch application. Cream bleach will work faster than oil bleach and will not irritate the scalp like powder bleach does.

## III. Helping Students Apply Concepts/Principles/Skills

Hold a discussion of this lesson in related class. During lab, give each student three strands of hair. Instruct each student to mix and apply oil bleach to one strand, cream bleach to the second strand, and powder bleach to the third strand. Have them process all three strands for 30 minutes, then shampoo and dry them. Have the students observe and record the results. (Math 1.6.5; Communications 2.0.3, 3.0.6; Safety 5)

## IV. Evaluating Student Learning

Have each student tape the three bleached strands to notebook paper and give his/her observations for comparison in a written report.
(Communications 2.0.4, 2.0.9)

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Activity Therapy**
**UNIT:** Group Activities
**SUBUNIT:** Community Trips

**J. Hug**
Instructor

### Competency/Terminal Performance Objective

Select the most appropriate activity for a field trip when given multiple options. Selection should be based on age of given participants and use of time.

**Learning Center** Lab
**Number/ Name**
**Date** Oct.

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| X | 5. Individual research | | 11. Case problem(s) |
| X | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

1. Select appropriate activity for a field trip when given multiple options. Selection should be based on age and activity level of given participants.
2. Select appropriate activity for a field trip for given participants when given multiple options. Selection should be based on use of time and time formula.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.5, 1.0.22, 3.0.9, 4.0.3 |
| Math: | 1.6.5, 1.6.7 |
| Science: | N/A |
| Safety: | 7, 13 |

### Equipment, Supplies, and Other Resources

- newsprint
- markers
- situation sheet
- masking tape

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| X | 2. Oral quiz | X | 7. Peer evaluation |
| | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Fairfield Career Center**
**Activity Therapy**

| | |
|---|---|
| **Possibilities-Factors**<br>(Problem-Solving Technique) | **Judy Hug**<br>(Instructor) |

# I. Preparing to Teach

UNIT: Group Activities
SUBUNIT: Community Trips

**Competency/Terminal Performance Objective**

Select the most appropriate activity for a field trip when given multiple options. Selection should be based on age of given participants and use of time.

**Competency Builders/Pupil Performance Objectives**

1. Select appropriate activity for a field trip when given multiple options. Selection should be based on age and activity level of given participants.
2. Select appropriate activity for a field trip for given participants when given multiple options. Selection should be based on use of time and time formula.

**Integrating Academic Competencies**

Communications:
1.0.5 Identify details such as who, what, why, where, when, or how.
1.0.22 Compare and contrast characters, objects, or events.
3.0.9 Distinguish between fact and opinion.
4.0.3 Participate in discussions.
Math:
1.6.5 Set up, solve, and apply ratios and proportions.
1.6.7 Translate written and/or verbal statements into mathematical expressions.
Science: N/A
Safety: 7 Prevent personal damage or injury from moving equipment and vehicles.
13 Prevent bodily injury from the lifting and moving of objects, and from falls.

**Equipment, Supplies, and Other Resources**

- newsprint
- markers
- situation sheet
- masking tape

**Present Situation**

There are 18 Seniors in Activity Therapy. They are going to plan an appropriate outing for a preschool group.

**Lesson Outline** *(continued)*

**Interest Approach**

"Four ideas have been presented for the field trip next month with the preschool. Keeping in mind all the components for a successful trip, let's determine which trip would be the most appropriate."

## II. Presenting the Lesson

**Define the Problem**

**Possibilities-Factors**

You are to plan a community outing for a group of five preschoolers who use wheelchairs. All participants live in Fairfield County. Their school day is 9 a.m. to 2 p.m.

**"Which of the following outings would be most appropriate?"**

| Factors to Consider | Possibilities | | | |
|---|---|---|---|---|
| | **Columbus Zoo** | **Wyandotte Lake** | **Rising Park, Lancaster (picnic)** | **Discovery Zone, Columbus** |
| 1. Is this facility/area wheelchair-accessible? | yes | no | partially | no |
| 2. Could this outing maintain preschoolers' attention? | yes | no<br>(see #3) | yes | no<br>(see #3) |
| 3. Can the children fully participate? | yes | no | yes | no |
| 4. Is the cost restrictive? | no | yes | no | yes |
| 5. Does the activity allow for individualizing? | yes | no | yes | no |
| 6. What level of risk is involved in this activity? | low | high | low | N/A; can't participate |
| 7. Is this facility close to home (Lancaster)? | no | no | yes | yes |

**Note:** To obtain information on some of the factors to consider, have the students make phone calls to some of the possible locations.

**Decision/Recommendation**

"We should plan an outing to Rising Park for a picnic because of reasonable travel time and cost, and the ability to individualize activities offered."

## III. Helping Students Apply Concepts/Principles/Skills

Divide the students into four small groups. Have each group list the benefits and limitations of one of the options. When the class comes back together, have each group present its findings. Based on the group findings and discussion, ask the students to select the most appropriate trip.

The students will proceed to plan and conduct the selected trip with the preschool class.

## IV. Evaluating Student Learning

Use oral questioning during the presentation and discussions. Following the selection, give a written quiz - "Why was this community trip selected? Give four reasons."

Ask for peer evaluation following the small group discussions, regarding level of participation and ability to work on a team.

## Summary of Possibilities-Factors Situation

### Presenting the Lesson

This lesson is planned around a decision or problem that has **more than two** possible solutions or options to choose from. Also, there are several factors to consider for each possible solution or option. Write your lesson plan based on the possible solutions or decisions and the related facts about each solution or choice.

Up-to-date information is essential so that students can identify possible factors to consider and facts related to these factors. Make available enough copies of each major reference that no more than two students will have to share the printed material.

### Helping Students Apply Concepts/Principles/Skills

When students have evaluated facts related to the various options of the Possibilities-Factors technique, the "application" phase takes place as they choose one of the options as the best decision or solution to the problem.

Application also takes place when a student applies this problem-solving technique to his/her own situation when faced with more than two choices or solutions to the problem. In contrast to the Effect/Cause technique which requires reasoning skills, the Possibilities/Factors technique is primarily an exercise in judgment.

### Evaluating Student Learning

Student learning can be evaluated after the choice has been made or the solution chosen for the problem being studied. If you asked each student to write his/her choice on a piece of paper before the class reaches a consensus, you can now tell whether or not each student is thinking "properly." If a student makes the "wrong" decision, you may want to review with him/her the chart, "Causes of Wrong Decisions." Help the student discover why he/she made an inappropriate decision.

Evaluation of student learning can also take place as students apply the **Possibilities/Factors** problem-solving technique to solving their own problems and making their own decisions.

## Technique 4: Situation-to-Be-Improved Technique

**Q 1** What is the nature of this problem-solving technique?

1. There is a situation involving the student and his/her family that needs to be corrected. This situation could be a facility, procedure, or condition in the family home, farm or business. Or it could involve the student's personal possessions or life.

2. This situation needs to be improved for efficient production, safety, convenience, or economy.

3. Improving the situation is the only available solution, since it is not practical to abandon the situation and start over again.

**Q 2** What are the steps to follow in this **situation-to-be-improved** problem-solving technique?

1. In the *situation* part of the lesson plan, the problem setting is given and the situation needing improvement is identified with the help of the students.

2. An *interest approach* to the lesson is needed. The teacher needs to help the students see the need to find a solution to the problem.

3. The *problem* statement is identified with the help of the students and written on the chalkboard. Wherever possible, actual student names and situations should be used.

4. The "ideal" situation or *Characteristics to Be Considered* should be identified and written on the chalkboard. Supervised study will probably be needed so that the ideal conditions, characteristics, and/or requirements for the problem situation can be identified. This information can be placed in column 1 of the four-column diagram. (See sample diagram format for chalkboard on next page.)

5. The *what and why* for each characteristic and requirement needs to be identified. The importance of each factor needs to be clear. Again, supervised study will be needed. Make sure references are up-to-date and sufficient in number for the class. This information is placed in column 2 of the diagram.

6. The actual *situation* of the student in regards to each characteristic must be described in detail. The description is entered in column 3 in the diagram.

7. To arrive at their *Recommendations*, the class needs to compare the actual situation needing improvement with the ideal characteristics and requirements (in the first two columns). Then the class needs to make practical, workable recommendations for improving the situation. These recommendations are listed in column 4.

8. The technical facts to be retained are found in the first two columns. Each student is expected to understand these well enough that he/she is able to apply them to similar situations that need improvement.

## SAMPLE CHALKBOARD FORMAT

**Define the Problem**

**Situation-to-Be-Improved**

Problem question:

| Characteristics Required | What & Why | Situation to Be Improved | Recommendations |
|---|---|---|---|
| 1. ____________________<br>2. ____________________<br>3. ____________________<br>4. ____________________ | | | |

**Note** or **Summary of Recommendations**

T4-2

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Food Processing**
**UNIT:** X - Beef
**SUBUNIT:** N/A

**J. Jones**
Instructor

### Competency/Terminal Performance Objective

X.X.X Maintain equipment when placed in a lab situation requiring skinning a beef. Maintenance should be done according to standards studied in class and recorded in student notebooks.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab & classroom | **Number/ Name** | | **Date** | Week 7 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

In the classroom I will summarize for the students the problems they have experienced in the lab when skinning a beef. Equipment and other needed items will be in the classroom. Follow-up of this lesson will include practicing knife sharpening.

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| X | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

X.X.X.1 Sharpen and maintain knives when given a skinning knife, sharpening stone and oil, and sharpening steel. All items on the performance assessment should be rated acceptable.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.2, 2.0.3, 3.0.1 |
| Math: | N/A |
| Science: | N/A |
| Safety: | 1 |

### Equipment, Supplies, and Other Resources

1. student tool kit (includes knife, steel)
2. bench stone
3. sharpening oil
4. microscope
5. handout: *Knife Sharpening Procedures*
6. overhead projector

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

## Laurel Oaks Career Development Center
## Food Processing

| **Situation-to-Be-Improved**<br>(Problem-Solving Technique) | **Jim Jones**<br>(Instructor) |
|---|---|

# I. Preparing to Teach

UNIT: X - Beef
SUBUNIT: N/A

### Competency/Terminal Performance Objective

X.X.X Maintain equipment when placed in a lab situation requiring skinning a beef. Maintenance should be done according to standards studied in class and recorded in student notebooks.

### Competency Builders/Pupil Performance Objectives

X.X.X.1 Sharpen and maintain knives when given a skinning knife, sharpening stone and oil, and sharpening steel. All items on the performance assessment should be rated acceptable.

### Integrating Academic Competencies

Communications:
1.0.2 Select and use appropriate reference sources and illustrative materials.
2.0.3 Record observations.
3.0.1 Demonstrate effective listening skills.
Math: N/A
Science: N/A
Safety: 1 Prevent cuts and abrasions from tools and equipment.

### Equipment, Supplies, and Other Resources

1. student tool kit (includes knife, steel)
2. bench stone
3. sharpening oil
4. microscope
5. handout: *Knife Sharpening Procedures*
6. overhead projector

### Present Situation

This class consists of 15 Meat Processing students. All students have had instruction in sharpening knives.

### Interest Approach

(Place questions and student responses on chalkboard.)

"During the lab yesterday, several of you had problems skinning a beef. You could not make straight and smooth cuts. As a result, the job of skinning was twice as difficult and looked poor. I discussed the problem with several of you. You concluded that your knives were not properly prepared for the job. You realized that you needed to do something about it. So, what can we do to improve sharpening so that our knives are sharp and stay sharp? How can we make sure our cuts are straight and smooth? How can we use time efficiently?"

## II. Presenting the Lesson

**Define the Problem**

**Situation-to-Be-Improved**

(Write this question on chalkboard and have students put it in their notes. Develop this chart on chalkboard.)

**"What can we do to improve sharpening so that our knives are sharp and stay sharp, we can make straight and smooth cuts, and we can use time efficiently?"**

| Characteristics Required | What & Why | Situation to Be Improved | Recommendations |
|---|---|---|---|
| 1. Even bevel on both sides of blade. (Maintain accurate bevel.) | This is necessary to have an even bevel on blade. | Students' knives have a bevel on one side of the blade. | Hold knife on stone at same angle on each side of blade. |
| 2. Equal number of stone strokes made per side | This will assure even bevel on both sides of blade. | One side of the knife has been honed more than the other. | Make equal number of strokes on each side of blade. |
| 3. No wire edge on blade | Wire edge is not sharp; will not last long. | Students' knives have a rough wire edge. | Hone knife against the edge, cutting "into the stone," not away from the stone. |
| 4. Teeth of blade straight rather than rolled to one side | A "rolled edge" will not cut straight because the edge is not aligned properly. | Students are rolling the edge over when they steel their knives. | Maintain honing and steel the knife an equal number of times on each side. Use smooth, even strokes. Steel at same angle as honed. |

**Note**: Before students resharpen their knives, have them examine their blades under a microscope. This will clearly show if they have a smooth, even bevel or a rough wire edge.

## III. Helping Students Apply Concepts/Principles/Skills

Demonstrate again the proper procedure for sharpening skinning knives. Then have each student resharpen his/her knife. When finished, examine each knife to make sure it has been sharpened properly. Also observe the quality of the job the skinning knife does. Make students continue to sharpen their knives until the knife meets the required standards of sharpness.

## IV. Evaluating Student Learning

Each knife must meet the characteristics described in the chart. Students will be graded *satisfactory* or *unsatisfactory* on the sharpness of the knife. They will also receive the same type of grade on their sharpening techniques.

Give the quiz on the next page at the end of the discussion on recommendations to improve sharpening skills.

**Answers to Quiz** (page T 4 - 7)

1. smooth, even
2. hold knife on stone at same angle on each side of the blade.
3. one side of the knife has been honed more than the other.
4. wire

NAME ______________________________

## QUIZ
## SHARPENING KNIVES

**Directions:** Fill in the blank with the word or words that make the sentence complete and true.

1. To keep the knife edge properly aligned, the steel should be moved in ______________, ________________ strokes.

2. Sometimes a knife will not cut straight. The bevel on the knife edge could be the cause. To prevent this problem, the recommended sharpening technique is to
______________________________________________________________
______________________________________________________________

3. Some knives in this class have an uneven bevel because ______________________________
______________________________________________________________

4. Steeling the knife at the same angle that it was honed will prevent what is known as a ______________ edge.

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Animal Care**
**UNIT:** X - Disease and Parasite Control
**SUBUNIT:** X.X - Preventing Diseases

**P. Collins**
Instructor

### Competency/Terminal Performance Objective

X.X.X Maintain proper housing when given pets and similar type of animal. Cage conditions must meet standards listed in the performance assessment instrument.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab | **Number/ Name** | | **Date** | Sept., week 3 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

X.X.X.1 Maintain proper cage conditions for given small animals. All items on the performance assessment must be rated acceptable.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.11, 3.0.1, 3.0.3, 3.0.6, 4.0.3, 4.0.12 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

### Equipment, Supplies, and Other Resources

1. chalkboard & chalk
2. cage
3. water bottle
4. feed samples

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Toledo Ag. Ed. Center**
**Animal Care**

| | |
|---|---|
| **Situation-to-Be-Improved**<br>(Problem-Solving Technique) | **Penny Collins**<br>(Instructor) |

# I. Preparing to Teach

UNIT: X - Disease and Parasite Control
SUBUNIT: X.X - Preventing Diseases

## Competency/Terminal Performance Objective

X.X.X Maintain proper housing when given pets and similar type of animal. Cage conditions must meet standards listed in the performance assessment instrument.

## Competency Builders/Pupil Performance Objectives

X.X.X.1 Maintain proper cage conditions for given small animals. All items on the performance assessment must be rated acceptable.

## Integrating Academic Competencies

Communications:
- 1.0.11 Differentiate facts and opinions.
- 3.0.1 Demonstrate effective listening skills.
- 3.0.3 Communicate appropriately with coworkers, clients, and supervisors.
- 3.0.6 Follow directions.
- 4.0.3 Participate in discussions.
- 4.0.12 Use appropriate language.

Math: N/A
Science: N/A
Safety: N/A

## Equipment, Supplies, and Other Resources

1. chalkboard & chalk
2. cage
3. water bottle
4. feed samples

## Present Situation

This is an Animal Care class with all Juniors. All have the responsibility of taking care of caged animals in the program. Many have pets of their own at home and keep them in cages.

## Lesson Outline *(continued)*

### Interest Approach

(Place questions and student responses on chalkboard.)

"On Friday we usually take some time to look back over the week and evaluate our work with the animals. The last two times we did this, we noticed that our rodents weren't doing as well as we would like. Their health has been poor. Many have come down with pneumonia. They have had small litters and short lives. We concluded that the trouble lies in our cages – they are not being thoroughly cleaned. We must correct this undesirable situation. Today, let's figure out how to improve our cage maintenance record.

"Let's review from our notebooks the proper procedures to follow in cleaning cages. Why are these the 'proper' procedures? Let's think back on how we've been cleaning. We can surely find some weaknesses. Now, let's list some recommendations for changes we can make in our cage cleaning procedures. Open your notebooks and see if you can quickly locate the earlier lessons on cage management."

## II. Presenting the Lesson

**Define the Problem**

**Situation-to-Be-Improved**

(Write the following on the chalkboard. Then develop this chart using students' input.)

"The health of our rodents has been damaged because of our poor cage cleaning procedures. **What do we need to do differently so that our cages will be cleaner?"**

| Characteristics Required | What & Why | Situation to Be Improved | Recommendations |
|---|---|---|---|
| 1. Cage kept clean to make it sanitary | Clean cages keep bacterial populations at a minimum; prevent disease. | Cages are cleaned and disinfected, but lids are neglected. | Scrub and disinfect cage lids. |
| 2. Water bottles kept clean and sanitary | (same as above) | Bottles simply rinsed in hot water | Use bottle brush with disinfectant, or use dishwasher with high-temperature wash. |
| 3. Water & food kept fresh at all times | (same as above) | Water & food fresh, but sometimes moved from one cage to another | Quickly dispose of wet food. If possible, eliminate food sharing. |
| 4. Maintaining proper light cycles | Necessary for proper breeding performance | Windows allow for natural light cycles. In winter reproductive cycle slows. | During the winter use artificial lighting to increase daylight hours. |
| 5. Maintaining low noise level | High levels of stress make immune system less efficient. | Construction on zoo grounds is loud. Student noise moderate. | Keep student noise to a minimum. |
| 6. Maintaining proper diet | Better nutrition results in better reproduction and less stress. | Rodents are fed the cheapest feed. | Feed Rodent Box, a special formula. |

## III. Helping Students Apply Concepts/Principles/Skills

Observe the students closely as they clean the cages, provide water, and feed the animals. Ask them questions about what they are doing and why. Talk with them individually in the lab to determine what they are doing at home about cage maintenance. During home visits, check their work habits.

## IV. Evaluating Student Learning

Following the discussion, give the students a short written quiz on cage maintenance procedures. Also, check the quality of work done by each person and/or crew.

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Animal Care**
**UNIT:** X - Reproduction
**SUBUNIT:** X.X - Managing Hamsters

**P. Collins**
Instructor

### Competency/Terminal Performance Objective

X.X.X Care for lactating female and its young when given hamsters in a lab setting. All items on the performance assessment must be rated acceptable.

| | | | |
|---|---|---|---|
| **Learning Center** | Lab; classroom | **Number/ Name** | **Date** Sept., week 2 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| X | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

X.X.X.1 Prevent cannibalism when faced with that situation in the lab. All items on the performance assessment must be rated acceptable.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.11, 2.0.9, 2.0.14, 3.0.1, 3.0.3, 3.0.6, 4.0.3, 4.0.12 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

### Equipment, Supplies, and Other Resources

1. chalkboard & chalk
2. hamster
3. cage
4. water bottle
5. bedding material
6. nest box
7. feed
8. references: *AALAS Manual, Biology of Rabbits and Rodents*

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | X | 9. Written report(s) |
| | 5. Written unit test | | |

**Toledo Ag. Ed. Center**
**Animal Care**

| **Situation-to-Be-Improved**<br>(Problem-Solving Technique) | **Penny Collins**<br>(Instructor) |
|---|---|

## I. Preparing to Teach

UNIT: X - Reproduction
SUBUNIT: X.X - Managing Hamsters

### Competency/Terminal Performance Objective

X.X.X Care for lactating female and its young when given hamsters in a lab setting. All items on the performance assessment must be rated acceptable.

### Competency Builders/Pupil Performance Objectives

X.X.X.1 Prevent cannibalism when faced with that situation in the lab. All items on the performance assessment must be rated acceptable.

### Integrating Academic Competencies

Communications:

| | |
|---|---|
| 1.0.11 | Differentiate facts and opinions. |
| 2.0.9 | Write legibly. |
| 2.0.14 | Use correct spelling. |
| 3.0.1 | Demonstrate effective listening skills. |
| 3.0.3 | Communicate appropriately with coworkers, clients, and supervisors. |
| 3.0.6 | Follow directions. |
| 4.0.3 | Participate in discussions. |
| 4.0.12 | Use appropriate language. |

Math: N/A
Science: N/A
Safety: N/A

### Equipment, Supplies, and Other Resources

1. chalkboard & chalk
2. hamster
3. cage
4. water bottle
5. bedding material
6. nest box
7. feed
8. references: *AALAS Manual, Biology of Rabbits and Rodents*

### Present Situation

This Animal Care class consists of 25 Juniors. All previously had a lesson in hamster management. They are currently undertaking various rodent breeding projects.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

"Your goals for your breeding project include raising at least three young to weaning age and then selling them for a profit. How will you reach this goal, knowing our past hamster breeding records? In past years, the student breeding projects have proven hamsters to be poor producers compared to rats and mice. Cannibalism has taken its toll on many hamster young. Occasionally, cannibalism occurs in other rodent species, but the hamster seems to be the most prone to this destructive act. What can you do management-wise with your breeding projects to prevent or reduce the occurrence of cannibalism? Let's work together in developing these needed management techniques."

## II. Presenting the Lesson

**Define the Problem**

**Situation-to-Be-Improved**

(Write the following on the chalkboard. Have students put the question in their notes. Then develop this chart using students' input. The students will learn the requirements of a female hamster with litter from supervised study of the textbook.)

**"What can we do management-wise to improve our hamster production by decreasing the occurrence of cannibalism?"** (How can we decrease cannibalism?)

| Characteristics Required* | What & Why | Current Situation | Recommendations |
|---|---|---|---|
| 1. Balanced ration with extra protein | Hamsters do well on pelleted rodent feed. Lactating females need extra energy and protein for maximum milk production; pelleted feed supplies both. | Rodent pellets are currently fed. | Continue |
| 2. Fresh water | Lactating females drink more water due to milk production. | Water is always available. | Continue |
| 3. Quiet environment | In the wild, hamsters live underground. Loud, unusual noises may stress the female. Trying to protect her young, she may actually harm them. | Student noise is moderate to loud. | Isolate animals in another room, if possible. |
| 4. Litter isolated from other hamsters | In the wild, hamsters are solitary animals. Other hamsters may harm the litter or stress the female. | Hamsters are housed in individual cages. | Continue |
| 5. Nesting material<br>* for female with litter | With or without a litter, the female will attempt to build a nest. She may be stressed if unable to build a nest. | Nesting material is not provided regularly. | Provide nesting material. |

## III. Helping Students Apply Concepts/Principles/Skills

After presentation and discussion of the chart, have the students incorporate these ideas into their breeding project *Plan of Practices* and turn it in for a grade. Supervise and evaluate the actual use of these principles during their breeding projects. Include in the breeding project grade a score for management practices.

## IV. Evaluating Student Learning

Inform students that each breeding project plan must have these ideas incorporated into it. Accept or reject each plan according to content. A student who receives a rejection must revise his/her plan until it is acceptable. On file cards, keep a record of each student's application of these principles during the project; make the cards accessible to the students. Include comments on a final evaluation score sheet and give points for actual use of the principles.

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

| | | |
|---|---|---|
| **PROGRAM:** | **Horticulture** | **J. Belmont**<br>Instructor |
| **UNIT:** | X - Natural Resource Conservation | |
| **SUBUNIT:** | X.X - Attracting Wildlife | |

### Competency/Terminal Performance Objective

X.X.X Manage and maintain a given pond. All items on the performance assessment must receive an acceptable rating.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab; classroom | **Number/ Name** | | **Date** | Sept., week 2 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | X | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | X | 11. Case problem(s) |
| X | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

X.X.X.1 Describe the importance of a given pond in relation to an entire ecosystem.
X.X.X.2 Identify no less than 10 inhabitants of a typical pond.
X.X.X.3 Describe the importance of good pond management and how it can benefit wildlife and aesthetics of an area. Description should match material recorded in student notebooks.
X.X.X.4 Develop a system of documentation of pond inhabitants and maintenance of the farm pond. System should meet criteria studied in class and recorded in student notebooks.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.2, 2.0.3, 3.0.1 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

### Equipment, Supplies, and Other Resources

1. handouts on ponds
2. a wildlife manual
3. color slides featuring ponds
4. resource people from Erie County Soil & Water Conservation District

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| X | 5. Written unit test | | |

## EHOVE Area Vocational Center
## Horticulture

| Situation-to-Be-Improved<br>(Problem-Solving Technique) | Jeff Belmont<br>(Instructor) |
|---|---|

# I. Preparing to Teach

UNIT: X - Natural Resource Conservation
SUBUNIT: X.X - Attracting Wildlife

### Competency/Terminal Performance Objective

X.X.X Manage and maintain a given pond. All items on the performance assessment must receive an acceptable rating.

### Competency Builders/Pupil Performance Objectives

X.X.X.1 Describe the importance of a given pond in relation to an entire ecosystem.

X.X.X.2 Identify no less than 10 inhabitants of a typical pond.

X.X.X.3 Describe the importance of good pond management and how it can benefit wildlife and aesthetics of an area. Description should match material recorded in student notebooks.

X.X.X.4 Develop a system of documentation of pond inhabitants and maintenance of the farm pond. System should meet criteria studied in class and recorded in student notebooks.

### Integrating Academic Competencies

Communications:
1.0.2 Select and use appropriate reference sources and illustrative materials.
2.0.3 Record observations.
3.0.1 Demonstrate effective listening skills.
Math: N/A
Science: N/A
Safety: N/A

### Equipment, Supplies, and Other Resources

1. handouts on ponds
2. a wildlife manual
3. color slides featuring ponds
4. resource people from Erie County Soil & Water Conservation District

### Present Situation

This class, Horticulture and Natural Resource Conservation combined, consists of 16 students, both Juniors and Seniors. All of them have taken on the responsibility of learning more about pond management and its management practices.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

"About a week ago a student brought before the class a request for help in managing a certain project: the pond at her school's land lab. She feels the project would be very beneficial not only to her school but also to our own Natural Resource Conservation/ Horticulture class.

"As we consider the needs of wildlife, let me ask you this: How many of you at some time in your life have had a pet? Raise your hands. O.K. Just about all of you. What type of pets have you had? [The usual: dogs, cats, gerbils, etc.]

"While you had (and you still may have) these pets, what were their demands on you? Let's list these demands on the chalkboard." (Choose a student to do the writing. This activity should reveal answers such as food, shelter, water, warmth, attention, grooming, etc.)

"These answers are all very good; let's take your answers just one step further.

> What are some different types of food that pets demand?
> What are some different types of shelter that pets demand?

"Good! Now we can make the assumption that animals require the same survival items that you and I require: **food, water,** and **shelter**."

## II. Presenting the Lesson

**Define the Problem** **Situation-to-Be-Improved**

"During the past two summers, heat and drought conditions played havoc with our pond water bird populations, greatly reducing their numbers. **What can we do now, if anything, to improve the conditions of our school pond and its surroundings to help attract water birds?"**

| Characteristics | What & Why | Situation-to-Be-Improved | Recommendations |
|---|---|---|---|
| 1. Birds have a "reason" to stay | To maintain and increase population | Existing diet is grasses, seeds, and berries. | Plant more wildlife food plants. |
| 2. Shelter provided for birds | To protect birds and maintain populations | Habitat area has been mowed for aesthetic reasons. | Let grasses grow taller; plant additional plantings. |
| 3. Open water where birds can drink | Sustain life – one of the "reasons" to stay. | Water is ice-covered, not open. | Install an aeration system. |
| 4. Adequate natural food available for water birds | Many species of water birds are present in the area. | Not enough natural food available for all water birds to survive | Plant additional shrubs and trees with berries. |
| 5. Adequate natural food available for water birds through the winter | Many species of water birds overwinter in the area. | No supplemental diet provided | Provide additional food through the winter. |
| 6. Some water birds present to attract other water birds | Population of Canada geese | Attracting Canada geese | Use decoys. Introduce use of baby ducks. Use an additional feeding program for geese. |
| 7. Adequate fish habitat | Desirable aquatic plants present | Few desirable aquatic plants; fish quite small | Plant desirable aquatic plants. Use algae control chemicals and colorants. |
| 8. Adequate aquatic food supplement | Healthy population of fish | Fish are quite small. | Provide aeration system; buy and introduce more fish. |

*(continued)*

## II. Presenting the Lesson *(continued)*

**Decision/Recommendation**

"From our class analysis of the situation, by your recommendation, we have identified eight changes we need to make in our pond environment. Through the remainder of the school year, we will try to determine how to implement these changes. Thank you for your excellent job of thinking and reasoning."

## III. Helping Students Apply Concepts/Principles/Skills

During the lesson on increasing the waterbird population and maintaining our pond, ask the students such questions as these: Why are we trying to increase the population of our water birds? Why is it so important to maintain and manage our school pond? What will it take to accomplish our goals?

If any student has a pond, work with that student in evaluating the pond in terms of characteristics found in column 1.

## IV. Evaluating Student Learning

Each day, after the skills have been taught, quiz the students verbally to make sure they have retained the necessary information. At the end of the unit, give them a written test to make sure that all objectives have been met. Score the students' notebooks according to the amount and quality of material they have recorded that will help them retain information.

Also, grade the students visually during the lab to make sure that the student recommendations made during class time are being implemented during their lab time.

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** Cosmetology
**UNIT:** 3 - Sanitation
**SUBUNIT:** N/A

**L. Hollingsworth**
Instructor

### Competency/Terminal Performance Objective

3.0.3 Perform sanitizing and disinfecting procedures in a salon setting using teacher-prepared procedure sheets to provide a sanitary environment following OSBC and OSHA guidelines.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Cosmetology lab | **Number/ Name** | Room 114 | **Date** | Sept., week 1 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

3.0.3.2 Clean and sanitize combs and brushes after each use, using procedure sheet to follow OSBC guidelines.
3.0.3.3 Clean and sanitize metal implements after each use, using procedure sheet to follow OSBC guidelines.
3.0.3.5 Clean and sanitize nonmetallic supplies after each use to comply with OSBC guidelines.
3.0.3.6 Clean and sanitize capes and garments to comply with OSBC guidelines.
3.0.3.8 Store sanitized supplies after sanitizing according to OSBC guidelines.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.2, 3.0.1, 3.0.6 |
| Math: | 2.6.3 |
| Science: | 6 |
| Safety: | Prevent spread of disease through cleaning and sanitizing equipment. |

### Equipment, Supplies, and Other Resources

1. dry sanitizer with approved fumigant
2. wet sanitizer with disinfectant solution
3. 70% alcohol
4. supplies and implements from student kit

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

## Eastland Career Center
## Cosmetology

|  |  |
|---|---|
| **Situation-to-Be-Improved**<br>(Problem-Solving Technique) | **Liz Hollingsworth**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 3 - Sanitation
SUBUNIT: N/A

### Competency/Terminal Performance Objective

3.0.3 Perform sanitizing and disinfecting procedures in a salon setting using teacher-prepared procedure sheets to provide a sanitary environment following OSBC and OSHA guidelines.

### Competency Builders/Pupil Performance Objectives

3.0.3.2 Clean and sanitize combs and brushes after each use, using procedure sheet to follow OSBC guidelines.
3.0.3.3 Clean and sanitize metal implements after each use, using procedure sheet to follow OSBC guidelines.
3.0.3.5 Clean and sanitize nonmetallic supplies after each use to comply with OSBC guidelines.
3.0.3.6 Clean and sanitize capes and garments to comply with OSBC guidelines.
3.0.3.8 Store sanitized supplies after sanitizing according to OSBC guidelines.

### Integrating Academic Competencies

Communications:
1.0.2 Select and use appropriate reference sources and illustrative materials.
3.0.1 Demonstrate effective listening skills.
3.0.6 Follow directions.
Math:
2.6.3 Read scale on measurement device(s) to nearest mark.
Science: 6 Explain the terms bacteria, viruses, and fungi as they relate to microbiology.
Safety: Prevent spread of disease through cleaning and sanitizing equipment.

### Equipment, Supplies, and Other Resources

1. dry sanitizer with approved fumigant
2. wet sanitizer with disinfectant solution
3. 70% alcohol
4. supplies and implements from student kit

### Present Situation

All students in the class (19 Juniors) have had lessons in correct sanitation procedures and disease prevention. Each student is responsible for cleaning and sanitizing his or her implements daily according to OSBC guidelines. The OSBC inspector found one student's kit to be unsanitary. We need to review sanitation procedures.

**Lesson Outline** *(continued)*

**Interest Approach**

(Discuss in the lab.)

Q 1. How important is sanitation in the beauty salon?

a. Sanitation is needed to prevent spread of germs.
b. Disease is caused by germs.
c. Customers are retained through confidence in salon's cleanliness.
d. We must satisfy State Board of Cosmetology inspectors.

Q 2. What problems have we had with improper sanitation procedures?

a. hair in implements
b. shampoo capes that have an odor or mildew
c. rust on manicuring implements
d. dirty tint bottles

Q 3. What do we need to know to prevent having an unsanitary kit?

a. proper sanitation procedures for metallic implements
b. proper sanitation procedures for nonmetallic implements
c. proper cleaning of capes and plastic bottles
d. proper storage of all supplies

## II. Presenting the Lesson

**Define the Problem**

**Situation-to-Be-Improved**

"The condition of your kits has caused the class to be reprimanded by the State Board Examiner during her inspection. **What do we need to do differently so that your kits will pass inspection?"**

| Characteristics Required | What & Why | Current Situation | Recommendations |
|---|---|---|---|
| 1. Combs and brushes sanitized after each use and free from hair before storing in dry sanitizer (kit) | Combs and brushes clean. Bacteria at a minimum to prevent spread of disease. | Kits are cleaned daily, but hair is sometimes left in brushes. | Remove excess hair and debris from brushes before sanitizing with OSBC-approved disinfectant. |
| 2. Metal implements, free from hair, properly sanitized and stored | Sanitized cutting implements prevent spread of bacteria from one person to another. | Previously cut hair is left on implements; some rust is present. | Wipe implements with cotton saturated with 70% alcohol. Dry completely before returning them to kit. |
| 3. Nonmetallic supplies (tint bottles) stored clean and dry | Clean bottles prevent contamination of solutions. | Tint mixture is not completely rinsed from bottle. | Fill bottle with hot soap solution and allow to soak before rinsing. Dry before returning to kit. |
| 4. Capes properly clean and dry before storing | Clean capes are free of most bacteria and dried thoroughly to prevent mildew. | Cape was wet when folded and placed in kit. | Wash capes with hot soap solution and dry thoroughly before folding. |

**Decision/Recommendation**: From our class analysis of the situation, we have identified three changes that need to be made in our daily cleaning of the kit and its contents. All hair must be removed from implements, appropriate sanitation procedures must be followed, and all articles must be dry before they are returned to the kit for storage.

## III. Helping Students Apply Concepts/Principles/Skills

Review sanitation procedures with the students by demonstration and supervised study. Have each student practice sanitation procedures using his/her own implements.

## IV. Evaluating Student Learning

During each week, make at least one "surprise" inspection to observe whether procedures are being followed. Also, check that kits are being kept sanitary. Deduct points from the daily lab grade for unsanitary kits.

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Activity Therapy**
**UNIT:** Organizational Skills
**SUBUNIT:** Office

**J. Hug**
Instructor

### Competency/Terminal Performance Objective

Organize (given) resource files. All items on the performance assessment should be rated acceptable.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab | **Number/ Name** | | **Date** | Sept., week 3 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

1. Determine effective organization of given files. Organization techniques should match those studied in class.
2. Identify benefits of organized resource files. Listed benefits should match those studied in class.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.2, 1.0.4, 3.0.1, 3.0.6, 3.0.10 |
| Math: | N/A |
| Science: | N/A |
| Safety: | 1, 13 |

### Equipment, Supplies, and Other Resources

- overheads/transparencies
- prepared list of resources

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | X | 7. Peer evaluation |
| | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

## Fairfield Career Center
## Activity Therapy

| | |
|---|---|
| **Situation-to-Be-Improved**<br>(Problem-Solving Technique) | **Judy Hug**<br>(Instructor) |

## I. Preparing to Teach

UNIT: Organizational Skills
SUBUNIT: Office

**Competency/Terminal Performance Objective**

Organize (given) resource files. All items on the performance assessment should be rated acceptable.

**Competency Builders/Pupil Performance Objectives**

1. Determine effective organization of given files. Organization techniques should match those studied in class.
2. Identify benefits of organized resource files. Listed benefits should match those studied in class.

**Integrating Academic Competencies**

Communications:
1.0.2 Select and use appropriate reference sources and illustrative materials.
1.0.4 Determine solutions to problems.
3.0.1 Demonstrate effective listening skills.
3.0.6 Follow directions.
3.0.10 Organize ideas.
Math: N/A
Science: N/A
Safety: 1 Prevent cuts and abrasions from tools and equipment.
13 Prevent bodily injury from the lifting and moving of objects, and from falls.

**Equipment, Supplies, and Other Resources**

- overheads/transparencies
- prepared list of resources

**Present Situation**

This class consists of 18 Seniors in Activity Therapy program. Students develop and maintain resource files over two-year program.

**Interest Approach**

(Send all students to files to find a specific item; give them 15 seconds and time them. Place questions and student responses on chalkboard.)

"Activity-accurate records and orderly files are important to Activity Therapy professionals. Yesterday I reviewed the organization of your file drawers with you. Today let's list some characteristics of orderly files."

## II. Presenting the Lesson

**Define the Problem**

**Situation-to-Be-Improved**

"Your files are erratic, incomplete, and unusable. **What do you need to do so that your files can serve as an effective resource?"**

| Characteristics Required | What & Why | Current Situation | Recommendations |
|---|---|---|---|
| 1. Files are easy to locate. | Available when needed | Haphazard | Arrange files in alphabetical order. |
| 2. Files include information on crafts, sports, activities, and disability education. | Complete information from the curriculum is needed for professional use. | Different categories are mixed together; some are incomplete. | Sort files into categories.<br>Color-code tabs on file folders. |
| 3. Files contain legible, thorough information. | More usable | Files are sloppy and missing information. | Complete needed information in all files. |

**Decision/Recommendation**:

(Individual students can alphabetize and color-code the files. Teams of students can complete the files that have information missing.)

Files should be accessible and easy to use. They are an important resource to both students and professionals.

## III. Helping Students Apply Concepts/Principles/Skills

Identify ways to improve and organize files. Then have students develop a system to be used by the entire class, for example:

| | |
|---|---|
| Arts/Crafts | red tabs |
| Group activities | yellow tabs |
| Individual/Small group activities | green tabs |
| Water activities | blue tabs |

Emphasize that all items are to be filed alphabetically.

Have students use this system to organize resource files and to maintain them.

## IV. Evaluating Student Learning

Have a student locate and bring you three specific documents from the files.

Then ask another student to present two specific documents from the same file. Have the first student (evaluator) complete the survey form.

At the end of each grading period, grade the students as to organization, use, and effect of an orderly file system.

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Math Intervention**
**UNIT:** 2 - Measurement; 5 - Geometry
**SUBUNIT:** 2.6 - Group F; 5.6 - Group F

**J. Posgai**
Instructor

### Competency/Terminal Performance Objective

Measurement:
- 2.6.2 Compute using appropriate units of measurement.
- 2.6.3 Read scale on measurement device(s) to nearest mark and make interpolations where appropriate.

Geometry:
- 5.6.1 Find perimeters and areas of geometric figures.
- 5.6.5 Apply problem-solving to geometric figures.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | School land lab, classroom | **Number/ Name** | | **Date** | April, week 4 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

After a brief classroom discussion about the importance of calculating perimeter, we will review the steps in finding the perimeter of a walkway. The class will move outdoors to take the measurements of the walkway and gather other necessary data. We will then return to the classroom for completion of the written report.

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

N/A

### Integrating Academic Competencies

| | | |
|---|---|---|
| Communications: | Reading: | 1.0.4, 1.0.5 |
| | Writing: | 2.0.3, 2.0.4, 2.0.9, 2.0.10, 2.0.11, 2.0.18 |
| | Listening: | 3.0.1, 3.0.6, 3.0.10 |
| | Speaking: | 4.0.3, 4.0.10, 4.0.12 |
| Math: | N/A | |
| Science: | N/A | |
| Safety: | 12 | |

### Equipment, Supplies, and Other Resources

1. tape measures
2. paper & pencils
3. chalkboard & chalk
4. student's notebook
5. *Math for Horticulture Student Manual* by Boor

**SCHEDULE** *(continued)*

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | X | 9. Written report(s) |
| | 5. Written unit test | | |

## Eastland Career Center
## Math Intervention

| | |
|---|---|
| **Situation-to-Be-Improved**<br>(Problem-Solving Technique) | **Jamie Posgai**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 2 - Measurement; 5 - Geometry
SUBUNIT: 2.6 - Group F; 5.6 - Group F

**Competency/Terminal Performance Objective**

Measurement:
- 2.6.2 Compute using appropriate units of measurement.
- 2.6.3 Read scale on measurement device(s) to nearest mark and make interpolations where appropriate.

Geometry:
- 5.6.1 Find perimeters and areas of geometric figures.
- 5.6.5 Apply problem-solving to geometric figures.

**Competency Builders/Pupil Performance Objectives**

N/A

**Integrating Academic Competencies**

Communications:
- Reading:
  - 1.0.4 Determine solutions to problems.
  - 1.0.5 Identify details such as who, what, why, where, when, or how.
- Writing:
  - 2.0.3 Record observations.
  - 2.0.4 Prepare written report(s).
  - 2.0.9 Write legibly.
  - 2.0.10 Organize facts, details, and examples in logical order.
  - 2.0.11 Use language appropriate for audience, purpose, and subject.
  - 2.0.18 Use written language to express oneself clearly.
- Listening:
  - 3.0.1 Demonstrate effective listening skills.
  - 3.0.6 Follow directions.
  - 3.0.10 Organize ideas.
- Speaking:
  - 4.0.3 Participate in discussions.
  - 4.0.10 Give clear explanations.
  - 4.0.12 Use appropriate language.

Math: N/A
Science: N/A
Safety: 12 Prevent damage to tools, equipment, building facilities, etc.

**Equipment, Supplies, and Other Resources**

1. tape measures
2. paper & pencils
3. chalkboard & chalk
4. student's notebook
5. *Math for Horticulture Student Manual* by Boor

## **Lesson Outline** *(continued)*

### Present Situation

This class is comprised of 12 students, some of whom are in the Horticulture program. The students are ready to advance to some basic geometrical calculations, e.g., perimeters, areas, volumes.

### Interest Approach

"During your discussion yesterday about the concrete patio, several of you had problems determining the number of cubic yards of concrete needed. What can we do to make sure we correctly calculate the number of cubic yards of concrete for the patio?

"Let's review in our notebooks the section on figuring volume. Why do we need to follow these procedures?"

## II. Presenting the Lesson

**Define the Problem** **Situation-to-Be-Improved**

(Develop the following on the chalkboard.)

**"What can we do to make sure we correctly calculate the number of cubic yards of concrete for the patio?"**

| Characteristics Required | What & Why | Current Situation | Recommendations |
|---|---|---|---|
| 1. Figure has three dimensions – length, width, and height.<br>(Reading 1.0.4, 1.0.5;<br>Writing 2.0.3, 2.0.9, 2.0.11;<br>Listening 3.0.1, 3.0.6, 3.0.10;<br>Speaking 4.0.3, 4.0.10, 4.0.12) | Three dimensions are needed in order to use volume formula. | We try to use the formula for two-dimensional objects. | Use volume formula for 3 dimensions. If object can be filled with sand or water, it has 3 dimensions. |
| 2. All dimensions must be in same unit of measure (feet). | Using a mixture of feet and inches in our calculations will give the wrong answer. | We forget how to convert inches to feet. | Convert inches to feet by dividing number of inches by 12. |
| 3. Use volume formula for a box-shaped figure. | The shape of the excavation requires use of the volume formula. Formula for a cylinder will not work. | We use the wrong formula. | Use l x w x h = number of cubic feet |
| 4. Convert cubic feet to cubic yards. | Concrete is sold in cubic yards. | Our answer so far is in cubic feet. | Convert to cubic yards: number of cubic feet ÷ 27 = number of cubic yards |

## III. Helping Students Apply Concepts/Principles/Skills

Review for the students the proper procedure for figuring the number of cubic yards of concrete needed for the patio. Then have each student re-figure the volume. Observe the students during this process to see that they are following the correct procedure.

## IV. Evaluating Student Learning

Evaluate each student's calculations for the volume of concrete needed. Remind them that problems involving figuring cubic yards will continue throughout the year; they must know how to solve them.

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

| | | |
|---|---|---|
| **PROGRAM:** | **Natural Resources** | **L. Pennisi**<br>Instructor |
| **UNIT:** | 2 - Natural Resources Industry | |
| **SUBUNIT:** | 2.0 - Ecology | |

**Competency/Terminal Performance Objective**

2.0.6 Examine interdependence of ecosystem when given an example. Identify the major components and tell how they relate to each other. Include all components as identified in the example given by the teacher.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | | **Date** | April, week 2 |

**Strategies for Related Class and/or Laboratory (Activities, Rotation)**

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| X | 5. Individual research | | 11. Case problem(s) |
| X | 6. Field trip(s) | | 12. Other |

**Competency Builders/Pupil Performance Objectives**

2.0.6.5 Recycle materials used by students every day and list the reasons for recycling and the benefits. Given a list of common products, identify each one and how each can be made from or into recycled materials.

**Integrating Academic Competencies**

| | |
|---|---|
| Communications: | 1.0.3, 1.0.4, 1.0.6, 1.0.8, 1.0.9<br>2.0.3, 2.0.4, 2.0.9, 2.0.14<br>3.0.1, 3.0.4, 3.0.6, 3.0.13<br>4.0.3 |
| Math: | 1.6.8 |
| Science: | N/A |
| Safety: | N/A |

**Equipment, Supplies, and Other Resources**

1. chalkboard & chalk
2. landfill to visit
3. compost pile to explore

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| X | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

## Cincinnati Zoo
## Natural Resources

| **Situation-to-Be-Improved**<br>(Problem-Solving Technique) | **Lisa Pennisi**<br>(Instructor) |
|---|---|

# I. Preparing to Teach

UNIT: 2 - Natural Resources Industry
SUBUNIT: 2.0 - Ecology

### Competency/Terminal Performance Objective

2.0.6 Examine interdependence of ecosystem when given an example. Identify the major components and tell how they relate to each other. Include all components as identified in the example given by the teacher.

### Competency Builders/Pupil Performance Objectives

2.0.6.5 Recycle materials used by students every day and list the reasons for recycling and the benefits. Given a list of common products, identify each one and how each can be made from or into recycled materials.

### Integrating Academic Competencies

Communications:

| | | |
|---|---|---|
| Reading: | 1.0.3 | Recognize intent and use of propaganda. |
| | 1.0.4 | Determine solutions to problems. |
| | 1.0.6 | Make predictions about information. |
| | 1.0.8 | Define words used in context. |
| | 1.0.9 | Explain stated or implied main idea(s). |
| Writing: | 2.0.3 | Record observations. |
| | 2.0.4 | Prepare written report(s). |
| | 2.0.9 | Write legibly. |
| | 2.0.14 | Use correct spelling. |
| Listening: | 3.0.1 | Demonstrate effective listening skills. |
| | 3.0.4 | Identify sources of information. |
| | 3.0.6 | Follow directions. |
| | 3.0.13 | Recognize propaganda and other persuasive ideas. |
| Speaking: | 4.0.3 | Participate in discussions. |

| | | |
|---|---|---|
| Math: | 1.6.8 | Estimate answers when calculating garbage produced and landfill fill time. |
| Science: | N/A | |
| Safety: | N/A | |

### Equipment, Supplies, and Other Resources

1. chalkboard & chalk
2. landfill to visit
3. compost pile to explore

**Lesson Outline** *(continued)*

**Present Situation**

All 20 students in this Natural Resources class have heard of or done recycling. But they are probably not informed as to the necessity (all the reasons) for recycling.

**Interest Approach**

(Place questions and student responses on chalkboard.)

"Each of us generates approximately 11 pounds of garbage per day. The prediction is that at this rate, Rumpke landfills will be full in four years. What do we need to do?"

## II. Presenting the Lesson

**Define the Problem** **Situation-to-Be-Improved**

"The Rumpke landfill is filling fast and will be full in four years. **How can we make it last longer? What can we do?"**

| Characteristics to Be Considered | What & Why | Current Situation | Recommendations |
|---|---|---|---|
| 1. Long life (extended) for Rumpke landfill | Places to dump are becoming scarce. People don't want a dump near them. | Landfill will be full in four years. | Slow down rate of filling the landfill. |
| 2. Ensuring public safety | Illegal dumping can cause toxic contamination. | Nowhere else to dump safely | Ensure life and safety of landfill. |
| 3. Cutting back on dumping | Less garbage is being dumped, so landfill fills up slower. | Each person produces 11 pounds of garbage per day. | Encourage people to dump less – to recycle and reuse. |
| 4. Producing less garbage | If companies produced less waste, there would be less trash to go in landfill. | Excessive packaging by companies | Get companies to use less packaging. |
| 5. Encouraging "green" consuming | Educate consumers to use less and recycle more. | Consumers buy products without thinking of effects. | Teach consumers to buy products that are recycled or can be recycled and with less packaging. |

**Decision/Recommendation**:

Extend landfill life by filling it more slowly. Do this by recycling and buying products that can be recycled or that are made from recycled materials. Choose to buy products with less packaging and thus less waste.

## III. Helping Students Apply Concepts/Principles/Skills

1. Help students learn what can be recycled and how to recycle it.
2. Set up home and school recycling systems.
3. Visit landfill and/or recycling site.
4. Ask students to decide what products at the store are "green."

## IV. Evaluating Student Learning

1. Determine whether students reached a decision logically.
2. Have students set up a home recycling program and do a paper on what they did.
3. Have students set up group recycling.
4. Give students a list of 20 products. Ask them to identify which are recyclable and how, and which can be made from recycled products.

## Summary of Situation-to-Be-Improved Technique

### Presenting the Lesson

In problems of this type, there is no choice of situations. The student has only one possibility; his/her problem is to make the best of it. That's why this technique for solving the problem is known as the "improvement" technique. The solution must deal with the real-life situation. Recommendations to the student for improving the present situation, when acted upon, become the solution to the problem.

Up-to-date information is essential so that students can identify the characteristics of the "ideal" situation as well as the reasons for these characteristics and the details of each characteristic.

### Helping Students Apply Concepts/Principles/Skills

When students have considered the characteristics of the ideal situation and the *what* and *why* of these characteristics, they enter the "application" phase of the Situation-to-Be-Improved technique. They are now ready to make recommendations to improve the present situation.

Application also takes place when a student applies this problem-solving technique to his/her own situation – one which cannot be discarded, but needs to be improved.

### Evaluating Student Learning

Student learning can be evaluated when class members recommend improvements based on their application of the ideal characteristics to the present situation. This evaluation should be based on the degree of realism and practicality in the students' recommendations.

# Technique 5: Effect - Cause Situation

**Q 1** What is the nature of this problem-solving technique?

1. An **undesirable effect** is noted.
2. Possible causes of the undesirable effect are identified.
3. Some of the possible causes are eliminated until the most likely cause(s) is identified.
4. The remedy for this cause is then sought.

**Q 2** What are the steps to follow in presenting this **effect, find-the-cause** problem-solving technique?

1. The *situation* in which the undesirable effect occurred needs to be identified with the help of the students and written on the chalkboard. (See sample chalkboard format on the next page.)
2. An *interest approach* to the lesson is needed. The teacher will encourage the students to see the need to help the selected student with the problem, and to make a decision or arrive at a solution. The teacher will bring out reasons why the students should try to find the cause of the undesirable situation. How can the students benefit by knowing the cause? What is the economic or personal advantage? One way to create interest is to develop a **Cause-and-Effect Chain**. A sample "chain" is given in Figure 8 (page T5-3). As the chain is developed left to right, each link is an *effect* of the previous one. Moving from right to left in the chain, each link is the *cause* of the next one.
3. The *problem statement* needs to be developed and written on the chalkboard. The statement deals with the cause of the undesirable effect. (See Sample Chalkboard Format on next page.)
4. Through group discussion and supervised study, identify *possible causes* for the undesirable condition. List these on the chalkboard. (See Format.)
5. The *related facts* to each possible cause are identified and listed. Some of the causes and related facts will need to be identified during supervised study periods.
6. Construct an **Effect/Cause** chart as the possible causes and related facts are being identified. (See Format.)
7. *Accept* or *reject* (possible) *causes* as they are analyzed in light of related facts. However, there may be more than one cause for the undesirable effect.

8. With the help of the students, develop a *Conclusion/Recommendation* to state the cause of the undesirable effect and to recommend procedures for overcoming it. Write this on the chalkboard.

9. Much of the information gathered in solving this student's problem can be used in solving similar problems affecting other students. The procedure will be the same for them to use.

---

## SAMPLE CHALKBOARD FORMAT

**Define the Problem**

**Effect - Cause**

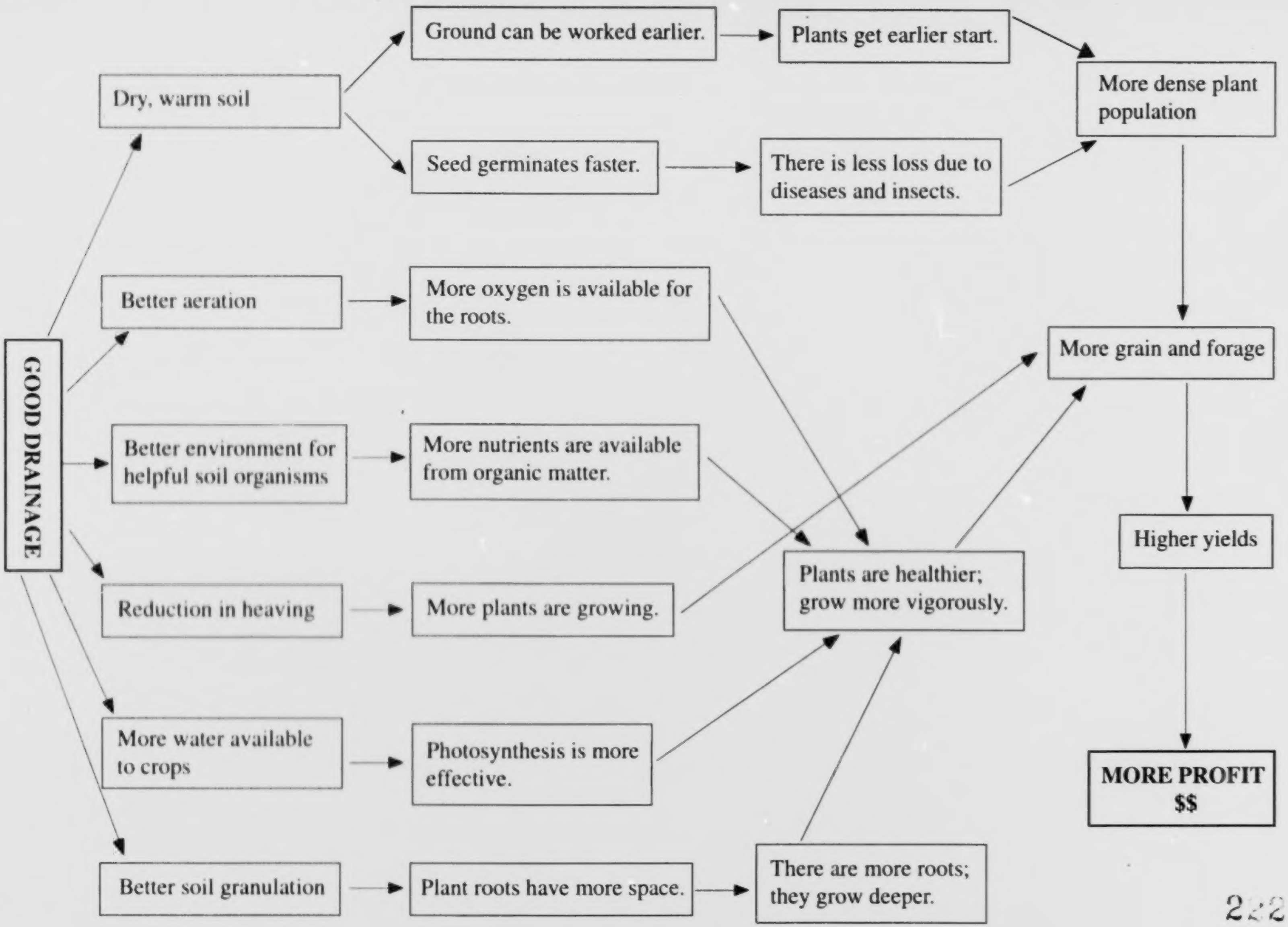
What is the cause of ________________ ?

| **Possible Causes** | **Related Facts** | **Accept/Reject Cause** |
|---|---|---|
| | | |

**Decision/Recommendation**

**Figure 8**

## CAUSE AND EFFECT CHAIN - Good Drainage Example


GOOD DRAINAGE
Dry, warm soil
Ground can be worked earlier.
Plants get earlier start.
Seed germinates faster.
There is less loss due to diseases and insects.
More dense plant population
Better aeration
More oxygen is available for the roots.
Better environment for helpful soil organisms
More nutrients are available from organic matter.
Reduction in heaving
More plants are growing.
More water available to crops
Photosynthesis is more effective.
Better soil granulation
Plant roots have more space.
There are more roots; they grow deeper.
Plants are healthier; grow more vigorously.
More grain and forage
Higher yields
MORE PROFIT $$

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Precision Machining Technologies**
**UNIT:** 9 - Milling Machines
**SUBUNIT:** N/A

**J. Cooke**
Instructor

**Competency/Terminal Performance Objective**

9.0.3 Perform milling operations according to print specifications, dimensions, and tolerances in a typical lab situation.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab, classroom | **Number/ Name** | | **Date** | Week 5 |

**Strategies for Related Class and/or Laboratory (Activities, Rotation)**

The students will assemble in the classroom following practice in the lab. During discussion time, we will try to determine the cause of "steps" on the workpiece.

| | | | |
|---|---|---|---|
| | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| X | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

**Competency Builders/Pupil Performance Objectives**

9.0.3.2 Mill a flat surface using conventional cutters on a vertical milling machine. Flat surface must meet print specifications.

**Integrating Academic Competencies**

| | |
|---|---|
| Communications: | 1.0.4, 1.0.14, 3.0.1 |
| Math: | 1.6.4 |
| Science: | 10 |
| Safety: | 1 |

**Equipment, Supplies, and Other Resources**

1. milling machine
2. conventional tooling
3. workpiece
4. blueprint
5. speed/feed charts
6. dial indicator
7. machine manual and reference materials (Operator's Manual for Bridgeport vertical machine and handout packet M-2)

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

## Hayes Technical Vocational School
## Precision Machining Technologies

| | |
|---|---|
| **Effect - Cause**<br>(Problem-Solving Technique) | **Jack Cooke**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 9 - Milling Machines
SUBUNIT: N/A

### Competency/Terminal Performance Objective

9.0.3 Perform milling operations according to print specifications, dimensions, and tolerances in a typical lab situation.

### Competency Builders/Pupil Performance Objectives

9.0.3.2 Mill a flat surface using conventional cutters on a vertical milling machine. Flat surface must meet print specifications.

### Integrating Academic Competencies

Communications:
1.0.4 Determine solutions to problems.
1.0.14 Explain cause-and-effect relationships.
3.0.1 Demonstrate effective listening skills.
Math: 1.6.4 Estimate, apply, and solve problems involving fractions, decimals, percentages, and real numbers.
Science: 10 Explain the effects of heating and cooling on various materials.
Safety: 1 Prevent cuts and abrasions from tools and equipment.

### Equipment, Supplies, and Other Resources

1. milling machine
2. conventional tooling
3. workpiece
4. blueprint
5. speed/feed charts
6. dial indicator
7. machine manual and reference materials (Operator's Manual for Bridgeport vertical machine and handout packet M-2)

### Present Situation

The students have been working on the Universal Vertical Milling Machine for only a short time. Speeds, feeds, coolants, and work-holding devices were included in previous lessons.

Today, Mike is operating the milling machine while working on an assigned project. Mike is machining Surface 1, which is to be flat. He notices that the workpiece is not flat after the machining operation, but shows small *steps* on the finished surface.

**Lesson Outline** *(continued)*

**Interest Approach**

"You are helping yourself if you help solve Mike's problem because

- each of us will be working on this project sooner or later.
- you will find that many other milling projects also will require flat surfaces to be machined. We all want to avoid future machining problems.

Let's use the chalkboard to identify possible causes and related facts and to determine a solution to Mike's problem."

## II. Presenting the Lesson

**Define the Problem**

**Effect - Cause**

"Mike finds that Surface 1, which is to be machined flat, has a 'stair-step' finish on it. **What could have caused that?"**

| Possible Causes | Related Facts | Accept/Reject Cause |
|---|---|---|
| 1. Cutter speed | Checked speed; it was correct - 360 rpm. | reject |
| 2. Cutter feed | Checked feed; it was correct - 8.64"/min. | reject |
| 3. Heat generated | No excessive heat was found. | reject |
| 4. Poor condition of cutting tool | Tool is sharp, ground properly. | reject |
| 5. Improper mounting of tool | Tool is properly mounted and secure. | reject |
| 6. Improper mounting of work and work-holding device | Work and work-holding device are properly mounted and secure. | reject |
| 7. Insufficient amount of metal removed on clean-up cut | Sufficient amount of stock was removed on clean-up cut - .050". | reject |
| 8. Poor alignment of head | Checked universal head; found it out of alignment with work table. | accept |

**Decision/Recommendation**

Cause of "stair-step" finish is improper alignment of the universal head with the table. Use a dial indicator and **tram** the universal work head.

## III. Helping Students Apply Concepts/Principles/Skills

Have each student use an indicator to tram the head on the Universal Vertical Milling Machine. The total indicator reading cannot exceed .001 inch. Have each student repeat this procedure until he/she is proficient.

## IV. Evaluating Student Learning

Inform the students of the following requirement:– Each student must tram the work head with an accuracy of .001 T.I.R. or less and complete the tramming operation in less than 15 minutes.

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# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Small Engines**
UNIT: X - Operate small equipment
SUBUNIT: X.X - Maintain and make adjustments

**G. Dunaeff**
Instructor

## Competency/Terminal Performance Objective

X.X.X Maintain and adjust given lawn mowers according to manufacturer's specifications.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab, arboretum | **Number/ Name** | 139 | **Date** | Mar., week 2 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

X.X.X.1 Adjust a given mower for an even cut, according to the owner's manual.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.14<br>3.0.1, 3.0.4, 3.0.6, 3.0.7, 3.0.10, 3.0.13<br>4.0.2, 4.0.3, 4.0.8, 4.0.10, 4.0.12 |
| Math: | N/A |
| Science: | 9 |
| Safety: | 1, 10 |

## Equipment, Supplies, and Other Resources

1. filmstrip and projector
2. flat surface for the lawn mower
3. lawn mower
4. 12" ruler

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Toledo Ag. Ed. Center**
**Small Engines**

| **Effect - Cause**<br>(Problem-Solving Technique) | **George Dunaeff**<br>(Instructor) |
|---|---|

## I. Preparing to Teach

UNIT: X - Operate small equipment
SUBUNIT: X.X - Maintain and make adjustments

**Competency/Terminal Performance Objective**

X.X.X Maintain and adjust given lawn mowers according to manufacturer's specifications.

**Competency Builders/Pupil Performance Objectives**

X.X.X.1 Adjust a given mower for an even cut, according to the owner's manual.

**Integrating Academic Competencies**

| | | |
|---|---|---|
| Communications: | | |
| | 1.0.14 | Explain cause-and-effect relationships. |
| | 3.0.1 | Demonstrate effective listening skills. |
| | 3.0.4 | Identify sources of information. |
| | 3.0.6 | Follow directions. |
| | 3.0.7 | Evaluate spoken communications. |
| | 3.0.10 | Organize ideas. |
| | 3.0.13 | Recognize propaganda and other persuasive ideas. |
| | 4.0.2 | Use nonverbal messages. |
| | 4.0.3 | Participate in discussions. |
| | 4.0.8 | Give oral directions. |
| | 4.0.10 | Give clear explanations. |
| | 4.0.12 | Use appropriate language. |
| Math: | N/A | |
| Science: | 9 | Explain the principles of simple machines (lever, pulley, inclined plane and screw wedge). |
| Safety: | 1 | Prevent cuts and abrasions from tools and equipment. |
| | 10 | Prevent mechanical damage to growing plants - trees, shrubbery, grass and seeds. |

**Equipment, Supplies, and Other Resources**

1. filmstrip and projector
2. flat surface for the lawn mower
3. lawn mower
4. 12" ruler

**Present Situation**

This is a Junior class in Small Engines. All students have used a lawn mower. Some of them have faced the problem of an uneven cut; they did not know how to deal with it.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

"Charlie came to me with a problem he is facing at the golf course where he works. When he mows the putting greens, the mower does not cut evenly; it leaves an incline with every mower pass. To correct this problem, he is forced to cut the same grass twice in opposite directions. Still, the cut is not totally flat. He has checked the air in the mower tires and the height of the deck; both were fine. What can we do to help Charlie solve the problem of the uneven mower cut so that the golfers can enjoy their game?"

## II. Presenting the Lesson

**Define the Problem** **Effect - Cause**

"The mower does not cut evenly when used on putting greens. **What is the cause of the problem? What can be done to correct it?"**

| Possible Causes | Related Facts | Accept/Reject Cause |
|---|---|---|
| 1. Uneven tire inflation | Tires must be inflated to proper pressure for deck to be level. Charlie checked tire pressures; they were correct. | reject |
| 2. Mower deck not adjusted properly | Deck must be at the same height all around for a flat cut. Charlie checked height; it was O.K. | reject |
| 3. Cutting blades not set at same height | Blades must be at correct and even height for a flat cut. Charlie had not checked the blades. Class members measured the blades and found that one was higher than the other. | accept |

**Decision/Recommendation**

Cause of the uneven cut was that the cutting blades were not set evenly.

(This lesson can be used as an Interest Approach for a **Key Steps** lesson on adjusting mowers.)

## III. Helping Students Apply Concepts/Principles/Skills

Have students check the mowers in the shop to see if any are out of adjustment in any of the three categories. If the students find a mower that is out of adjustment, assign them to adjust it as needed – two students working on each mower.

## IV. Evaluating Student Learning

Evaluate each pair of students based on the accuracy of their adjustments. Grade their work either satisfactory or unsatisfactory.

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# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Horticulture**
**UNIT:** X - Landscape
**SUBUNIT:** X.X - Maintaining the Landscape

**E. Boyer**
Instructor

## Competency/Terminal Performance Objective

X.X.X Protect (given) plants from winter damage. All items on the performance assessment must receive an acceptable rating.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab, arboretum | **Number/ Name** | | **Date** | Apr. or Oct. |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | X | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

X.X.X.1 Explain correctly what plants need winter protection in this part of the state.
X.X.X.2 Determine the method(s) that will be most effective in protecting given plants from winter damage.
X.X.X.3 Demonstrate (correctly) methods of protecting given plants from winter damage.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.4, 1.0.5, 1.0.8, 1.0.14, 1.0.15<br>2.0.1, 2.0.3, 2.0.13<br>3.0.1, 3.0.2, 3.0.4, 3.0.6, 3.0.10, 3.0.12<br>4.0.3, 4.0.7, 4.0.10, 4.0.12 |
| Math: | N/A |
| Science: | 10 |
| Safety: | N/A |

## Equipment, Supplies, and Other Resources

- chalkboard & chalk
- class reference book

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

| Eastland Career Center<br>Horticulture | |
|---|---|
| **Effect - Cause**<br>(Problem-Solving Technique) | **Eric Boyer**<br>(Instructor) |

# I. Preparing to Teach

UNIT: X - Landscape
SUBUNIT: X.X - Maintaining the Landscape

**Competency/Terminal Performance Objective**

X.X.X Protect (given) plants from winter damage. All items on the performance assessment must receive an acceptable rating.

**Competency Builders/Pupil Performance Objectives**

X.X.X.1 Explain correctly what plants need winter protection in this part of the state.
X.X.X.2 Determine the method(s) that will be most effective in protecting given plants from winter damage.
X.X.X.3 Demonstrate (correctly) methods of protecting given plants from winter damage.

**Integrating Academic Competencies**

Communications:

| | | |
|---|---|---|
| Reading: | 1.0.4 | Determine solutions to problems. |
| | 1.0.5 | Identify details such as who, what, why, where, when, or how. |
| | 1.0.8 | Define words used in context. |
| | 1.0.14 | Explain cause-and-effect relationships. |
| | 1.0.15 | Summarize material. |
| Writing: | 2.0.1 | Use word processing, graphics, etc. as aids for writing. |
| | 2.0.3 | Record observations. |
| | 2.0.13 | Use correct grammar. |
| Listening: | 3.0.1 | Demonstrate effective listening skills. |
| | 3.0.2 | Take complete telephone messages. |
| | 3.0.4 | Identify sources of information. |
| | 3.0.6 | Follow directions. |
| | 3.0.10 | Organize ideas. |
| | 3.0.12 | Differentiate appreciative, informative, and critical listening skills. |
| Speaking: | 4.0.3 | Participate in discussions. |
| | 4.0.7 | Give telephone messages. |
| | 4.0.10 | Give clear explanations. |
| | 4.0.12 | Use appropriate language. |

Math: N/A
Science: 10 Explain the effects of heating and cooling (expansion, contraction, and distortion) on various materials.
Safety: N/A

**Lesson Outline** *(continued)*

**Equipment, Supplies, and Other Resources**

- chalkboard & chalk
- class reference book

**Present Situation**

This is a class of 15 Horticulture students who have had no previous instruction in landscape construction. They have had previous instruction in basic plant growth and development.

**Interest Approach**

(Place questions and student responses on chalkboard.)

"John was telling me that last spring in the garden center where he works, a customer came in with three dead taxus. The customer complained that the shrubs, which were healthy at the start of the fall, started to lose their needles around the first of the year. He wanted to know why John had sold him plants that wouldn't survive in this area. John asked our class to help him solve this problem. I think that's a good idea, knowing where many of you work, because you too might get this question.

"As we consider this problem question on the chalkboard, we'll develop a chart identifying possible reasons why plants do not live through the winter. We need further information about the situation of John's customer *(Related Facts)*. Also, we'll leave space in which to record whether the suggested cause is accepted or rejected."

## II. Presenting the Lesson

**Define the Problem**

**Effect - Cause**

"**What are the causes of plants not living through the winter in our area?** (such as in John's customer's situation)"

| Possible Causes | Related Facts | Accept/Reject Cause |
|---|---|---|
| 1. Insects | Insects are inactive in winter. | reject |
| 2. Salt | These shrubs are not near walkways. | reject |
| 3. Drying out | There has been a lot of wind this past winter; the ground was frozen. | accept |
| 4. Too cold | These plants are adapted to this zone (zone 4). But this winter has been harsher than usual. | accept |
| 5. Old age | Plants are only in second year. | reject |

**Decision/Recommendation**

The problem was not the plant's hardiness, but the lack of preparation it received for going into the winter. John should explain to his customer why and how to protect the plants from winter damage.

(**Note:** This short lesson in problem-solving is an effective Interest Approach for a lesson involving manipulative skills in preparing plants for winter.)

## III. Helping Students Apply Concepts/Principles/Skills

Give these students some simulated situations they might encounter, and have them determine possible causes of the given effects.

## IV. Evaluating Student Learning

Give the students a quiz that requires them to decide **why** plants are not thriving.

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **IBE Word Processing**
**UNIT:** 5 - Support Tasks
**SUBUNIT:** N/A

**J. Schoener**
Instructor

### Competency/Terminal Performance Objective

5.0.1 Perform telephone operations in a simulated office environment. Operations are to be done according to office standards listed in student notebooks.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | IBE - 68 | **Date** | Nov., week 1 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | X | 10. Role playing |
| | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

5.0.1.3 Operate equipment in a given telephone system. Process given incoming calls and place outgoing calls in accordance with business standards studied in class and recorded in student notebooks.
5.0.1.4 Receive calls when given a telephone system and sample calls to receive. All items on the performance assessment should receive an acceptable rating.

### Integrating Academic Competencies

Communications: 1.0.4, 1.0.5, 1.0.8, 1.0.14, 1.0.15
2.0.1, 2.0.3, 2.0.13
3.0.1, 3.0.2, 3.0.4, 3.0.6, 3.0.10, 3.0.12
4.0.3, 4.0.7, 4.0.10, 4.0.12
Math: N/A
Science: N/A
Safety: N/A

### Equipment, Supplies, and Other Resources

1. *Office Systems and Procedures* textbook
2. chapter outline
3. telephone system (in classroom)
4. telephone book
5. pen or pencil
6. chalkboard & chalk

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | X | 7. Peer evaluation |
| | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| X | 5. Written unit test | | |

**Franklin Heights High School**
**IBE Word Processing**

| | |
|---|---|
| **Effect - Cause**<br>(Problem-Solving Technique) | **Jill Schoener**<br>(Instructor) |

## I. Preparing to Teach

UNIT: 5 - Support Tasks
SUBUNIT: N/A

**Competency/Terminal Performance Objective**

5.0.1 Perform telephone operations in a simulated office environment. Operations are to be done according to office standards listed in student notebooks.

**Competency Builders/Pupil Performance Objectives**

5.0.1.3 Operate equipment in a given telephone system. Process given incoming calls and place outgoing calls in accordance with business standards studied in class and recorded in student notebooks.

5.0.1.4 Receive calls when given a telephone system and sample calls to receive. All items on the performance assessment should receive an acceptable rating.

**Integrating Academic Competencies**

Communications:

| | | |
|---|---|---|
| Reading: | 1.0.4 | Determine solutions to problems. |
| | 1.0.5 | Identify details such as who, what, why, where, when, or how. |
| | 1.0.8 | Define words used in context. |
| | 1.0.14 | Explain cause-and-effect relationships. |
| | 1.0.15 | Summarize material. |
| Writing: | 2.0.1 | Use word processing, graphics, etc. as aids for writing. |
| | 2.0.3 | Record observations. |
| | 2.0.13 | Use correct grammar. |
| Listening: | 3.0.1 | Demonstrate effective listening skills. |
| | 3.0.2 | Take complete telephone messages. |
| | 3.0.4 | Identify sources of information. |
| | 3.0.6 | Follow directions. |
| | 3.0.10 | Organize ideas. |
| | 3.0.12 | Differentiate appreciative, informative, and critical listening skills. |
| Speaking: | 4.0.3 | Participate in discussions. |
| | 4.0.7 | Give telephone messages. |
| | 4.0.10 | Give clear explanations. |
| | 4.0.12 | Use appropriate language. |

Math: N/A
Science: N/A
Safety: N/A

**Lesson Outline** *(continued)*

**Equipment, Supplies, and Other Resources**

1. *Office Systems and Procedures* textbook
2. chapter outline
3. telephone system (in classroom)
4. telephone book
5. pen or pencil
6. chalkboard & chalk

**Present Situation**

This Intensive Business Education (IBE) class consists of 15 Juniors. They already know how to use the telephone system in the classroom. They are just beginning to learn about telephone procedures. We have discussed the correct methods and procedures for answering incoming calls.

**Interest Approach**

(Place questions and student responses on chalkboard.)

"Yesterday we were discussing that an effective office worker must have good telephone skills. Because the telephone is so familiar in homes and offices, most people assume that they know how to use it properly. However, just as with other job skills, proper telephone skills must be developed.

"The other day I was calling a major store with a question about a bill I had received. When the receptionist answered the phone, I told her what the problem was. She asked me to hold while she transferred the call. I started to wait, then realized that I had been disconnected. So I called back and reached the same receptionist. Again she asked me to hold while she transferred the call. This time I stayed on hold for five minutes. No one ever picked up the phone, so I hung up.

"I will put the problem statement on the chalkboard, and you can help me develop a chart. As you give some possible causes, I'll list them on the board. Then we can examine each of them."

## II. Presenting the Lesson

**Define the Problem**

**Effect - Cause**

**"Why do you think the telephone call was never transferred to the correct person or department?"**

| Possible Causes | Related Facts | Accept/Reject Cause |
|---|---|---|
| 1. The telephone system was not working correctly. | A new system was recently installed. All equipment is functioning correctly. | reject |
| 2. The receptionist does not know how to transfer incoming calls. | With installation of the new system, the phone company offered a training program for employees in how to use the new system. This secretary did not attend. | accept |
| 3. The receptionist does not know who to transfer the call to. | This secretary does not have a current listing of department and personnel extension numbers in her reception area. | accept |

**Conclusion/Recommendation**

The problem was not with the telephone company. The problem was caused by lack of training on the part of the receptionist. The company should make it mandatory for each receptionist to have a solid understanding of the telephone system before answering the telephone during business hours. The receptionist has the responsibility to keep a current list of all extensions to all departments, and a list of all employees' extensions so that calls can be transferred quickly and accurately.

## III. Helping Students Apply Concepts/Principles/Skills

Give the students different role-playing telephone situations to analyze in class. After each student has had time to consider all the factors in the particular situation, have her demonstrate her solution to each situation using the telephone system in the classroom. Each situation will cover the basics such as answering the telephone, transferring calls, and recording messages. Each student must justify her actions and explain why she handled the situation as she did. After each role-playing situation, hold a class discussion to analyze the actions of each student and decide if a correct method was used in processing the call.

## IV. Evaluating Student Learning

Use the following items to evaluate student performance in this lesson:

| | | |
|---|---|---|
| 1. | Chapter outline | 10 points |
| 2. | End-of-chapter questions | 10 points |
| 3. | Role-playing situation | 25 points |
| 4. | Class participation in evaluation of role-playing | 10 points |
| 5. | Chapter quiz | 15 points |
| 6. | Unit test | 30 points |
| | TOTAL | 100 points |

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Cosmetology**
**UNIT:** 5 - Hair Shaping (Cutting)
**SUBUNIT:** N/A

**L. Hollingsworth**
Instructor

### Competency/Terminal Performance Objective

5.0.4 Give scissor haircut after desired haircut is determined. Perform scissor cut according to procedure sheet(s) prepared by the teacher, following OSBC guidelines. All scissor cuts must meet with client's satisfaction.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Cosmetology lab | **Number/ Name** | Room 114 | **Date** | Sept., week 2 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

5.0.4.2 Blunt-cut hair with scissors after client consultation and hair analysis. The blunt cut must meet with client's satisfaction and follow teacher-prepared performance checklist.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.14, 3.0.1, 3.0.3, 3.0.6 |
| Math: | 2.6.3, 5.6.3 |
| Science: | N/A |
| Safety: | 1 |

### Equipment, Supplies, and Other Resources

1. Procedure Sheet - *Blunt Cut*
2. scissors
3. comb
4. clips
5. water bottle
6. mannequin

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | X | 10. Checklist |

## Eastland Career Center
## Cosmetology

**Effect - Cause**
(Problem-Solving Technique)

**Liz Hollingsworth**
(Instructor)

# I. Preparing to Teach

UNIT: 5 - Hair Shaping (Cutting)
SUBUNIT: N/A

### Competency/Terminal Performance Objective

5.0.4 Give scissor haircut after desired haircut is determined. Perform scissor cut according to procedure sheet(s) prepared by the teacher, following OSBC guidelines. All scissor cuts must meet with client's satisfaction.

### Competency Builders/Pupil Performance Objectives

5.0.4.2 Blunt-cut hair with scissors after client consultation and hair analysis. The blunt cut must meet with client's satisfaction and follow teacher-prepared performance checklist.

### Integrating Academic Competencies

Communications:
- 1.0.14 Explain cause-and-effect relationships.
- 3.0.1 Demonstrate effective listening skills.
- 3.0.3 Communicate appropriately with coworkers, clients, and supervisors.
- 3.0.6 Follow directions.

Math:
- 2.6.3 Read scale on measurement device(s) to nearest mark.
- 5.6.3 Recognize, classify, and use properties of lines and angles.

Science: N/A
Safety: 1 Prevent cuts and abrasions from tools and equipment.

### Equipment, Supplies, and Other Resources

1. Procedure Sheet - *Blunt Cut*
2. scissors
3. comb
4. clips
5. water bottle
6. mannequin

### Present Situation

The 19 Juniors in this class have discussed measurements and angles in related math. The teacher has completed a demonstration of blunt cut on a mannequin. The students completed the same cut on their mannequins and are comparing the results with one another. Sara notices that her haircut doesn't appear blunt. She gives permission for the other students to discuss and determine the cause of her mistake.

**Lesson Outline** *(continued)*

**Interest Approach**

(List possible causes and procedures on chalkboard.)

"Each of you has completed a blunt haircut. After comparing your results with others, you can see that some cuts are more blunt than others. Because you will be doing this cut again, let's analyze Sara's results to determine what steps should be corrected to achieve better results."

## II. Presenting the Lesson

**Define the Problem**

**Effect - Cause**

The blunt haircut should have a broom-like appearance at the ends. Sara's haircut appears layered. **What could have been the cause(s) of this effect?**

| Possible Causes | Related Facts | Accept/Reject Cause |
|---|---|---|
| 1. Hand position | Middle finger slightly overlaps index finger. When holding hair, hold fingers parallel to the part line. | reject |
| 2. Scissor position | Thumb in thumb-grip, ring finger in finger grip, little finger on finger brace. Hold scissors parallel to the part line. | reject |
| 3. Projection angle of hair | Hair must be held at 0°; it must not be lifted away from the head. | accept |
| 4. Hair distribution | Hair must be combed perpendicular to the part line; it must not shift out of proper position. | reject |
| 5. Elasticity | Hair stretches more when wet. Don't stretch it when cutting a blunt cut. | accept |

**Conclusion/Recommendation**

We determined that Sara was stretching the hair and lifting it away from the head while cutting. These two techniques combined created a layered look. Sara must remember to hold the hair close to the head and not stretch it while cutting.

## III. Helping Students Apply Concepts/Principles/Skills

Have each student review the proper procedures to follow (checklist) for giving a blunt haircut. Then assign each student to complete the haircut again.

## IV. Evaluating Student Learning

Move around the lab observing the students' procedures as they cut their mannequins' hair. Use a checklist as you go; then give it to each student at the completion of the blunt cut. Then he or she will know what (if any) procedures need to be reviewed. Check the completed cut for accuracy.

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# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Activity Therapy**
UNIT: Safety and Health
SUBUNIT: Contagious Diseases

**J. Hug**
Instructor

## Competency/Terminal Performance Objective

Identify transmission methods for (given) contagious diseases with at least 85% accuracy.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Related classroom | **Number/ Name** | | **Date** | Sept., week 1 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | X | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

1. Identify ringworm (correctly) as a contagious dermatological disease.
2. Identify (correctly) procedures to prevent ringworm transmission.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.14, 3.0.8, 3.0.9, 4.0.3 |
| Math: | N/A |
| Science: | 4, 15 |
| Safety: | 4, 6, 15 |

## Equipment, Supplies, and Other Resources

- chalkboard & chalk
- overheads

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Fairfield Career Center**
**Activity Therapy**

| **Effect - Cause**<br>(Problem-Solving Technique) | **Judy Hug**<br>(Instructor) |
|---|---|

## I. Preparing to Teach

UNIT: Safety and Health
SUBUNIT: Contagious Diseases

### Competency/Terminal Performance Objective

Identify transmission methods for (given) contagious diseases with at least 85% accuracy.

### Competency Builders/Pupil Performance Objectives

1. Identify ringworm (correctly) as a contagious dermatological disease.
2. Identify (correctly) procedures to prevent ringworm transmission.

### Integrating Academic Competencies

Communications:
1.0.14 Explain cause-and-effect relationships.
3.0.8 Draw inferences and/or conclusions.
3.0.9 Distinguish between fact and opinion.
4.0.3 Participate in discussions.
Math: N/A
Science: 4 Explain the concepts of reproduction in plants (fungi).
15 Explain the effects of chemicals when in contact with moisture and human tissues.
Safety: 4 Prevent conditions causing chemicals to explode.
6 Prevent conditions causing chemical contamination of the environment.
15 Prevent personal injury to pets and other livestock.

### Equipment, Supplies, and Other Resources

- chalkboard & chalk
- overheads

### Present Situation

The class consists of 18 Seniors in Activity Therapy. They have been involved in community programming with multi-handicapped children. One A.T. student has a patch of ringworm on her scalp.

**Lesson Outline** *(continued)*

**Interest Approach**

(Hand out fact sheets to students. Have picture of ringworm infection ready to show. Place questions and student responses on chalkboard.)

"Student C has been diagnosed with ringworm. To learn about ringworm, refer to the fact sheet in front of you. Also, this slide shows you what ringworm looks like. Ringworm is a highly contagious disease caused by fungi. Let's look back over Student C's activities and see if we can determine how she got ringworm."

## II. Presenting the Lesson

**Define the Problem**

**Effect - Cause**

Student C has been diagnosed with ringworm. **What are the possible ways this disease was transmitted? How can it be prevented from spreading?**

| Possible Causes (Contaminants) | Related Facts | Accept/Reject Cause |
|---|---|---|
| 1. Laundry | Can be transmitted by contact or by contaminated clothing articles. | reject |
| 2. Grooming items (combs, brushes, etc.) | Can be transmitted by sharing grooming products. (Student C shared a comb.) | accept |
| 3. Personal contact | Can be transmitted by contact with infected person. | reject |
| 4. Unknown transmission vehicle | Transmission vehicle may never be determined, but methods of transmission **are** known. It is possible to prevent transmission of the fungus. | accept |

**Decision/Recommendation**

It is not possible to determine for sure the method of transmission of the ringworm infection. Sharing a comb with another student is a possible way.
(A subsequent lesson will focus on review of disease transmission and how to prevent recurrence.)

## III. Helping Students Apply Concepts/Principles/Skills

On the chalkboard or overhead, trace and document the possible factors/events leading to the infection.

(Be sure to get prior approval from the student involved before proceeding with the lesson. The aim is not to embarrass or offend the student.)

## IV. Evaluating Student Learning

Give a written quiz to evaluate student understanding of ringworm identification and prevention.

Use ongoing, unannounced observation of the students in an effort to prevent future transmission.

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# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** GRADS
**UNIT:** 2 - Pregnancy
**SUBUNIT:** 2.2 - Postnatal Care

**T. Branham**
Instructor

## Competency/Terminal Performance Objective

2.2.2 Demonstrate care of the newborn when given all necessary equipment and resources. All items on the performance assessment should be rated acceptable.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | Room 203 | **Date** | 4th week |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | X | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

2.2.2.3 Describe bonding between mother and baby, using current, reliable resources. Give at least two examples that illustrate it.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.14, 2.0.9, 2.0.18, 3.0.1, 3.0.9, 4.0.3 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

## Equipment, Supplies, and Other Resources

1. chalkboard & chalk
2. video on crying
3. current magazine articles on colic
4. stationery & stamps

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Eastland Vocational School**
**GRADS**

| | |
|---|---|
| **Effect - Cause**<br>(Problem-Solving Technique) | **Teresa Branham**<br>(Instructor) |

## I. Preparing to Teach

UNIT: 2 - Pregnancy
SUBUNIT: 2.2 - Postnatal Care

### Competency/Terminal Performance Objective

2.2.2 Demonstrate care of the newborn when given all necessary equipment and resources. All items on the performance assessment should be rated acceptable.

### Competency Builders/Pupil Performance Objectives

2.2.2.3 Describe bonding between mother and baby, using current, reliable resources. Give at least two examples that illustrate it.

### Integrating Academic Competencies

Communications:

| | |
|---|---|
| 1.0.14 | Explain cause-and-effect relationships. |
| 2.0.9 | Write legibly. |
| 2.0.18 | Use written language to express oneself clearly. |
| 3.0.1 | Demonstrate effective listening skills. |
| 3.0.9 | Distinguish between fact and opinion. |
| 4.0.3 | Participate in discussions. |

Math: N/A
Science: N/A
Safety: N/A

### Equipment, Supplies, and Other Resources

1. chalkboard & chalk
2. video on crying
3. current magazine articles on colic
4. stationery & stamps

### Present Situation

The composition of this class changes from week to week. There are usually 6-8 students, both pregnant and parenting. The students are at very different levels of experience and knowledge about newborns.

**Lesson Outline** *(continued)*

**Interest Approach**

"I went out to see Sally and her new baby, Justina. Sally is concerned because the baby cries so much. The baby is eating well - about 3 ounces every three hours - and burps well after each feeding. When she finally stops crying, the baby also sleeps well. When Justina starts to cry, Sally always checks her diaper and looks for anything that might be pinching or hurting her. She can't find anything. Sally also checks the baby's temperature and finds it normal. What do you think could be causing the baby's crying? Let's put on the board all the possibilities you can think of."

(Write questions and student responses on chalkboard in chart form, as follows.)

Tell the students that you will return to share on an individual basis with Sally, the student who is experiencing the problem. She is receiving home instruction at present.

## II. Presenting the Lesson

**Define the Problem**

**Effect - Cause**

Sally's newborn baby, Justina, cries most of the time she is awake. **What could be the cause(s) of the baby's excessive crying?**

| Possible Causes | Related Facts | Accept/Reject Cause |
|---|---|---|
| 1. Hunger | Baby takes 3 oz. formula every 3 hours. | reject |
| 2. Soiled diaper | Sally changes the diaper promptly; baby does not stop crying. | reject |
| 3. Gas in stomach | Baby is burped well after each feeding. Shows no evidence of trapped gas. | reject |
| 4. Tiredness; lack of sleep | Baby sleeps soundly; averages 16-18 hours per 24 hours. | reject |
| 5. Something external is hurting | Sally checks for signs of external discomfort; finds none. | reject |
| 6. Illness | No fever, congestion, or other signs of illness | reject |
| 7. Baby just likes being held | Baby quiets down for a while when held, but then starts crying again. | possible |
| 8. Colic | Periods of crying are irregular, unpredictable; no cause apparent; not easily comforted. | accept |

**Decision/Recommendation**

The baby is probably colicky. In her doctor appointment next week, Sally should discuss this possibility with her doctor and ask for his/her recommendation.

## III. Helping Students Apply Concepts/Principles/Skills

"We think the baby's crying may be caused by colic. What ways can you suggest to calm a crying (colicky) baby?"

(Write question and student responses on board.)

- rock the baby
- give pacifier
- let baby cry it out
- sing
- walk and sway
- take baby for ride in car

"Let's see if this video has any other ideas on how to calm a crying baby." (After showing the video, add any further ideas to the above list.)

"I also have several current magazine articles on colic. I would like each of you to select an article and scan through it for any other ideas that are not on our list.

"As a new parent, if you have to cope with a colicky baby 24 hours a day, you can feel really depressed and hopeless. To encourage Sally, and to summarize what we have learned today, I would like each of you to write a short, positive note to Sally. Include in it at least five methods she could try to calm her colicky baby."

## IV. Evaluating Student Learning

Provide bright stationery for the students to use to write their notes to Sally. Provide them Sally's address and a postage stamp. Collect all the completed notes and mail them.

Make home visits to students who are new parents. Observe how they react to their baby. Evaluate whether the student has a good grasp of this material.

## ㊶ INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Math Intervention**
**UNIT:** 2 - Measurement; 5 - Geometry
**SUBUNIT:** 2.6 - Group F; 5.6 - Group F

**J. Posgai**
Instructor

### Competency/Terminal Performance Objective

Math: Measurement 2.6.1, 2.6.2, 2.6.3
Geometry 5.6.1, 5.6.2, 5.6.4, 5.6.5

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab, arboretum | **Number/ Name** | | **Date** | April, week 4 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

We will review the importance of calculating volume as opposed to area. The class will move outdoors and they will calculate the amount of mulch needed for the arboretum.

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| X | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

N/A

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.4, 1.0.5, 1.0.6, 1.0.7, 1.0.14<br>2.0.3, 2.0.4, 2.0.9, 2.0.10, 2.0.11, 2.0.18<br>3.0.1, 3.0.6, 3.0.8, 3.0.9, 3.0.10<br>4.0.3, 4.0.10, 4.0.12 |
| Math: | N/A |
| Science: | N/A |
| Safety: | 12 |

### Equipment, Supplies, and Other Resources

1. tape measures
2. rulers
3. measuring wheels
4. yardsticks
5. paper & pencils
6. chalkboard & chalk
7. *Math for Horticulture Student Manual* by Boor
8. student's notebook

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | X | 9. Written report(s) |
| | 5. Written unit test | | |

## Eastland Career Center
## Math Intervention

| | |
|---|---|
| **Effect - Cause**<br>(Problem-Solving Technique) | **Jamie J. Posgai**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 2 - Measurement; 5 - Geometry
SUBUNIT: 2.6 - Group F; 5.6 - Group F

### Competency/Terminal Performance Objective

Measurement:

| | |
|---|---|
| 2.6.1 | Convert, compare, and compute correctly with common units of measurement within and/or across given measurement systems. |
| 2.6.2 | Compute correctly using appropriate units of measurement when given a problem to solve. |
| 2.6.3 | Read scale on measurement device(s) to nearest mark and make interpolations correctly where appropriate. |

Geometry:

| | |
|---|---|
| 5.6.1 | Find correctly perimeters and areas of given geometric figures. |
| 5.6.2 | Find correctly surface areas and volumes of applicable geometric figures. |
| 5.6.4 | Recognize, classify, and use correctly properties of two- and three-dimensional figures (e.g., circles, triangles, rectangles, cylinders). |
| 5.6.5 | Apply correctly problem-solving to given geometric figures. |

### Competency Builders/Pupil Performance Objectives

N/A

### Integrating Academic Competencies

Communications:

| | | |
|---|---|---|
| Reading: | 1.0.4 | Determine solutions to problems. |
| | 1.0.5 | Identify details such as who, what, why, where, when, or how. |
| | 1.0.6 | Make predictions about information. |
| | 1.0.7 | Cite details that support or do not support predictions. |
| | 1.0.14 | Explain cause-and-effect relationships. |
| Writing: | 2.0.3 | Record observations. |
| | 2.0.4 | Prepare written report. |
| | 2.0.9 | Write legibly. |
| | 2.0.10 | Organize facts, details, and examples in logical order. |
| | 2.0.11 | Use language appropriate for audience, purpose, and subject. |
| | 2.0.18 | Use written language to express oneself clearly. |
| Listening: | 3.0.1 | Demonstrate effective listening skills. |
| | 3.0.6 | Follow directions. |
| | 3.0.8 | Draw inferences and/or conclusions. |
| | 3.0.9 | Distinguish between fact and opinion. |
| | 3.0.10 | Organize ideas. |
| Speaking: | 4.0.3 | Participate in discussions. |
| | 4.0.10 | Give clear explanations. |
| | 4.0.12 | Use appropriate language. |

*(continued)*

## Lesson Outline *(continued)*

### Integrating Academic Competencies *(continued)*

Math: N/A
Science: N/A
Safety: 12 Prevent damage to tools, equipment, building facilities, etc.

### Equipment, Supplies, and Other Resources

1. tape measures
2. rulers
3. measuring wheels
4. yardsticks
5. paper & pencils
6. chalkboard & chalk
7. *Math for Horticulture Student Manual* by Boor
8. student's notebook

### Present Situation

This is a class of 8 Landscape Horticulture I and II students. All students still need to pass the math section of the Ninth Grade Ohio Proficiency Test. The students have already been exposed to these topics and have had in-class practice. Working in the lab on these topics will be new to them.

### Interest Approach

(Place questions and student responses on chalkboard.)

**Q 1** How important is math in landscape horticulture?

1. You need it to measure lumber.
2. You need it to figure amount of concrete needed.
3. You have to figure the number of bricks needed to construct a patio.
4. You have to figure the number of square feet in a square yard.
5.

**Q 2** What problems have we had solving math problems in landscape horticulture?

1. Why is there more than one formula to figure area?
2. The guy at the gravel pit always wants measurements in tons.
3. How do we avoid ending up with too much mulch for the job?
4. I'm not sure when to measure in feet and when in inches.
5. I'm not sure when to convert inches to feet or feet to inches.
6.

**Q 3** What do we need to know or be able to do to solve or prevent these problems?

1. Why and when units must be converted
2. How to figure perimeter
3. How to figure area
4. How to figure volume
5. How to change volume to weight
6. Which formula is the one to use
7. How to check the reasonableness of my answer
8.

*(continued)*

**Lesson Outline** *(continued)*

**Interest Approach** *(continued)*

"Mike told me that last week he had planned to put down mulch on the beds at his house. He figured the amount of mulch he would need, and then bought it. Yesterday, he put down the mulch - 6" thick on all the beds. When he was done, he realized he had bought way too much. Mike told me that he had purchased 200 cubic feet of mulch. We went over his calculations and determined that he had needed only 100 cubic feet.

"Why do you think Mike ended up with too much mulch?"
(As students give possible causes, list them on the board in chart form.)

## II. Presenting the Lesson

**Define the Problem** **Effect - Cause**

**"Why did Mike end up with too much mulch?"**

| Possible Causes | Related Facts | Accept/Reject Cause |
|---|---|---|
| 1. Measurements wrong[1] | Mike double-checked his measurements with those on the master plan. They all checked out. | reject |
| 2. Use of mixed dimensions (feet & inches)[2] | All the dimensions Mike used were in feet. | reject |
| 3. Use of wrong formula | Mike said he multiplied length times width just like in class. He forgot to figure in the dimension of depth (6"). | accept |

[1] Communications 1.0.4, 1.0.5, 1.0.7, 3.0.1, 3.0.6, 3.0.8, 3.0.9, 3.0.10, 4.0.3, 4.0.10, 4.0.12

[2] Communications 1.0.6, 1.0.14, 2.0.3, 2.0.9, 2.0.10, 2.0.11, 2.0.18

**Decision/Recommendation**

Mike's problem was that he used the formula for area (length x width) instead of the formula for volume. Since the depth of the mulch was supposed to be 6" (1/2 foot), his mistake gave him twice as much mulch as he needed.

## III. Helping Students Apply Concepts/Principles/Skills

Have the students help identify possible causes of the problem.

Have the students calculate the amount of mulch needed for the arboretum.

## IV. Evaluating Student Learning

Evaluate students on their ability to identify the correct cause of Mike's problem. Before the class decision is made, have each student write his/her choice of the cause of the problem, giving reasons for that choice. Evaluate each decision for accuracy.

Evaluate students for accuracy when they calculate the amount of mulch needed for the arboretum.

# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Landscape Horticulture**
**UNIT:** 3 - Equipment Maintenance
**SUBUNIT:** N/A

**E. Boyer**
Instructor

## Competency/Terminal Performance Objective

3.0.10 Operate (given) power equipment. The procedure must be done as described in the owner's manual.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab, arboretum | **Number/ Name** | #139 | **Date** | Mar., week 2 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

The problem will be presented and solved in the classroom. If examples of this problem are evident in the arboretum, use them to show the students what the streaks look like. Eventually, all students will be applying fertilizer in the arboretum.

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

3.0.10.2 Use given spreader. The procedure must be done as described in the owner's manual.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.14, 3.0.1, 3.0.5, 3.0.6, 3.0.8, 4.0.3, 4.0.12 |
| Math: | 2.6.1, 2.6.3 |
| Science: | 3, 5, 9, 15 |
| Safety: | 5, 7, 10, 12 |

## Equipment, Supplies, and Other Resources

- chalkboard & chalk
- reference materials
- student's notebook

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | X | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Eastland Career Center**
**Landscape Horticulture**

| | |
|---|---|
| **Effect - Cause**<br>(Problem-Solving Technique) | **Eric Boyer**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 3 - Equipment Maintenance
SUBUNIT: N/A

**Competency/Terminal Performance Objective**

3.0.10 Operate (given) power equipment. The procedure must be done as described in the owner's manual.

**Competency Builders/Pupil Performance Objectives**

3.0.10.2 Use given spreader. The procedure must be done as described in the owner's manual.

**Integrating Academic Competencies**

Communications:

| | | |
|---|---|---|
| Reading: | 1.0.14 | Explain cause-and-effect relationships. |
| Listening: | 3.0.1 | Demonstrate effective listening skills. |
| | 3.0.5 | Identify main idea(s). |
| | 3.0.6 | Follow directions. |
| | 3.0.8 | Draw inferences and/or conclusions. |
| Speaking: | 4.0.3 | Participate in discussions. |
| | 4.0.12 | Use appropriate language. |

| | | |
|---|---|---|
| Math: | 2.6.1 | Convert, compare, and compute with common units of measurement within and/or across measurement systems. |
| | 2.6.3 | Read scale on measurement device(s) to nearest mark and make interpolations where appropriate. |
| Science: | 3 | Explain the terms photosynthesis, respiration, transpiration, and absorption as they relate to plant systems. |
| | 5 | Explain the principles of nutrition as they relate to plants. |
| | 9 | Explain the principles of simple machines (lever, pulley, inclined plane and screw wedge). |
| | 15 | Explain the effects of chemicals when in contact with moisture and human tissues. |
| Safety: | 5 | Prevent conditions causing chemical damage to the human body, clothing and similar items, wooden articles, animals, and vegetation. |
| | 7 | Prevent personal damage or injury from moving equipment and vehicles. |
| | 10 | Prevent mechanical damage to growing plants – trees, shrubbery, grass, and seeds. |
| | 12 | Prevent damage to tools, equipment, building facilities, etc. |

**Equipment, Supplies, and Other Resources**

- chalkboard & chalk
- reference materials
- student's notebook

**Lesson Outline** *(continued)*

**Present Situation**

This Landscape Horticulture class consists of 10 Junior students. The students are at different levels of knowledge about lawn care. All of them observed operation of the spreader in the fall.

**Interest Approach**

(Place questions and student responses on chalkboard.)

"Anne was telling me that she fertilized her lawn this spring just as we had learned in class. She said that about two weeks later there were streaks in the lawn – some of them very dark green and some of them very light green (while most of the lawn was medium green). Anne asked that we help her solve this problem in class. Since we will soon be fertilizing the arboretum again, I agreed that the whole class needs to know what happened to Anne.

"As you give some possible causes, I'll list them on our chart so we can accept or reject them."

## II. Presenting the Lesson

**Define the Problem**

**Effect - Cause**

**"Why do you think there were streaks in Anne's lawn?"**

| Possible Causes | Related Facts | Accept/Reject Cause |
|---|---|---|
| 1. Used wrong kind of fertilizer | An Extension agent recommended the kind of fertilizer used. | reject |
| 2. Fertilizer wasn't watered in. | Anne says she applied 2" of water after applying fertilizer. | reject |
| 3. Used wrong kind of spreader. | Anne used the school's spreader. | reject |
| 4. Spreader wasn't properly adjusted. | Anne and I made sure it was adjusted before she used it. | reject |
| 5. The overlap was uneven. | Fertilizer pattern is about 10' wide. Edges of the pattern should overlap about 1'. Anne said she wasn't sure how much she overlapped because she couldn't see the product. (It helps to wet the grass slightly so the product sticks and is visible. Be sure to water it in after the application is complete.) | accept |

**Decision/Recommendation**

The cause of the streaks was uneven overlap.

(This short lesson is an Interest Approach for a **Key Steps** lesson on using a spreader.)

## III. Helping Students Apply Concepts/Principles/Skills

Have each student apply fertilizer in the arboretum using a rotary spreader.

## IV. Evaluating Student Learning

Encourage students to participate in the class discussion and contribute to the chart development.

Evaluate each student as to how accurately he/she makes product application.

## Summary of Effect-Cause Situation

### Presenting the Lesson

The lesson that uses this problem-solving technique is planned around a specific happening–an **effect**, the **cause** or causes of which are not readily apparent. Through the student activity of "reasoning out" the cause, the effect can be either eliminated or prevented from happening in the future. All possible causes can be considered, tested for relationship, and then accepted or discarded.

Up-to-date information is essential so that students can identify needed facts that relate to possible causes of the effect being studied.

### Helping Students Apply Concepts/Principles/Skills

The students must first identify possible causes of the effect (problem). Then they collect the facts related to each possible cause and analyze each one. When they are able to determine the cause or causes of the effect or problem being studied, they have entered the **application** phase of the Effect-Cause technique.

Application also takes place when a student applies this problem-solving technique to his/her own situation, when suddenly recognizing an effect or happening without an obvious possible cause.

### Evaluating Student Learning

Student learning can be evaluated after the students have identified possible causes of the effect or happening (to the best of their ability with assistance from the teacher). Have each student write on a piece of paper his/her choice of the cause or causes and the reasons for the decision. Evaluate the student's decision based on the accuracy of the diagnosis of the cause or causes.

## Technique 6: The Four-Question Interest Approach

### ① *What is the nature of this teaching technique?*

The four-question interest approach serves as an "umbrella" for teaching specific skills. It is an effective technique to get students involved in planning and conducting a lesson. This approach is workable for both academic and vocational lessons. In other words, this approach is effective for learning a history lesson, for learning mathematical skills, or for developing a hands-on skill such as making a corsage.

### ② *What are the* 'Four Questions'?

1. How important is ______________________________?
2. What problems have we had with __________________?
3. What do we need to know or be able to do to solve and/or prevent these problems?
4. What specific information are we lacking concerning what we said we need to know and/or be able to do?

### ③ *What can the Four-Question Interest Approach accomplish?*

- Develop ownership on the part of the student for the direction and success of the lesson.
- Provide an opportunity for the student to help determine lesson content.
- Provide a foundation for teaching critical-thinking skills and for selecting problem-solving/decision-making techniques.

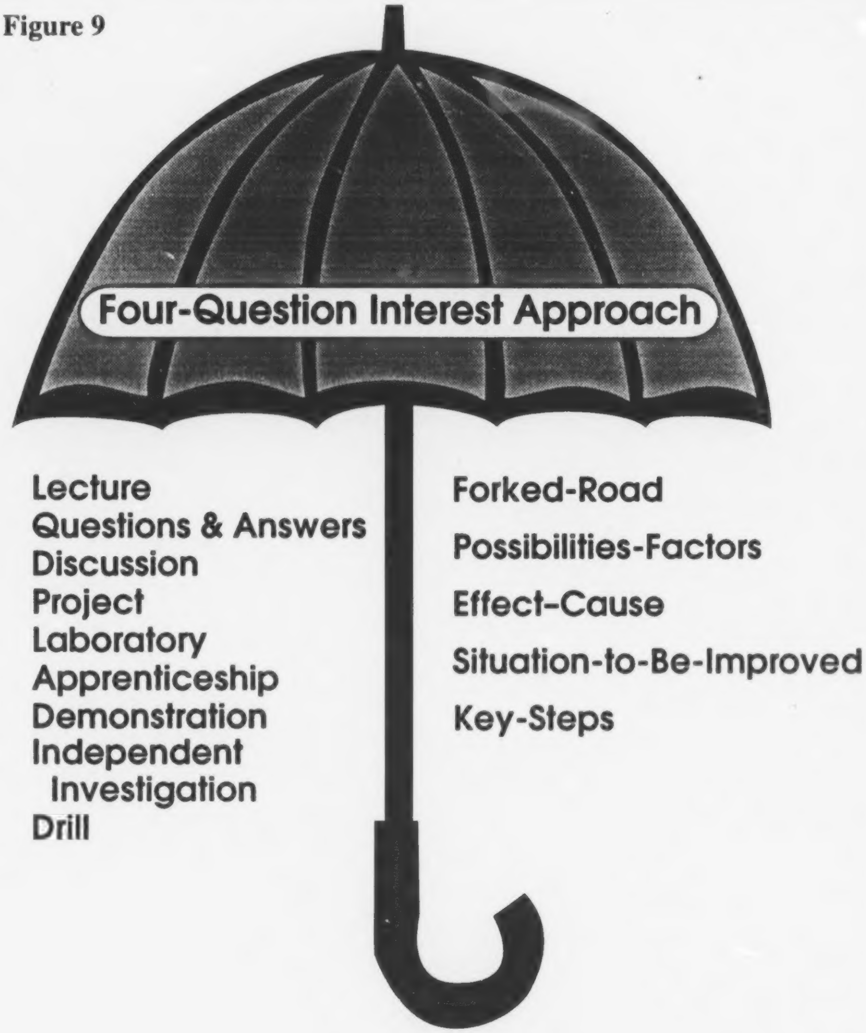
The four-question interest approach serves as an umbrella under which we can use various methods of teaching (Figure 9).

### ④ *How does the Four-Question Interest Approach work for both teacher and students?*

#### Question 1: How important is ________________?

The first question in this interest approach helps students understand what their lives would be like without the object of the lesson. For example, "How important is a well-maintained lawn for a home?" Another example (paraphrased) is: "What would we **not** be able to do if we didn't have hydraulic systems?" Or: "How important is a sanitary hair-dressing kit?" Please note that we usually use the student performance in the competency statement as the object of the question. For example, if the competency statement is "10.19. Operate turf and landscape equipment" (Horticulture OCAP, p. 26), the first question might be "How important is the proper operation of turf and landscape equipment?"

Figure 9


Four-Question Interest Approach
Lecture
Questions & Answers
Discussion
Project
Laboratory
Apprenticeship
Demonstration
Independent Investigation
Drill
Forked-Road
Possibilities-Factors
Effect-Cause
Situation-to-Be-Improved
Key-Steps

**Question 2: What problems have we had, or do we anticipate with ____________?**

To continue with the landscape example, the second question would read, "What problems have we had, or do we anticipate, with maintaining the landscape for our home?" Be sure to provide time for students to share their experiences with the subject under discussion. Getting students to share the problems they have had with the item being discussed (or the problems that others have had or the students could anticipate) makes the lesson a personal experience for each student. They have a growing "ownership" of the lesson. Students who have a strong feeling of ownership in the lesson are much more likely to give close attention to the learning activities planned for the lesson. Experienced teachers are well aware that no learning takes place without attention on the part of the learner. When learners give their attention, more effective learning can take place. When learning occurs, students have a skill that they can market in the workplace.

Possible student responses to the question concerning problems or anticipated problems dealing with maintaining a lawn could be any of the following:

- We keep getting moles in our yard, and they leave piles of dirt all around. Gross!
- In our lawn, we can't seem to get much grass to grow on the north side of the house.
- Our lawn turns brown in late summer. I wish it was green like our neighbor's.
- Last year our lawn had circles of dead grass in it. And the year before, too.
- You ought to see **our** lawn in the spring! It's solid yellow from all the dandelions growing in it! Mom thinks they look pretty, but Dad hates them.
- We have pretty good grass until school is out. Then my younger brothers and their friends kill the grass playing ball on it.
- Dad says we'll never have a good-looking lawn. He says our grass is too weak to fight off the weeds.

### Question 3: What do we need to know or be able to do to solve and/or prevent these problems?

The third question in the four-question sequence, "What do we need to know or be able to do to solve or prevent these problems?" should engage the students in critical thinking to provide the answers. Their responses to Question 3 provide them the opportunity to offer their input in terms of what they will need to learn in the lesson to solve or prevent the identified problems. Of course, no competent teacher would begin a lesson without having decided what the student is supposed to be able to do at the end of the lesson, i.e., the student performance objective. Also, you will have assembled the basic content of the lesson. Even so, the **four-question** interest approach provides an opportunity for the student to contribute to the decision of what is to be taught/learned in the lesson.

Basically, then, **student responses to the third question provide the lesson content outline.** These "things we need to know" correlate closely with the competencies and competency builders found in the course of study (and, of course, the content in your prepared lesson plan). What students say they need to know or be able to do will include about 75 percent of what you, the teacher, already consider to be basic content. And who has helped to decide what to learn? The students. They have gained more ownership of the lesson. Again, when there is ownership of anything, there is more interest in it. More interest results in more attention, which in turn results in more learning. This learning results in achievement of the student performance objective. Students now have a marketable skill.

Continuing with the example of maintaining a lawn, students might identify the following as "things we need to know or be able to do" to solve and/or prevent the identified problems. (*Caution:* At this point, because you want student input, accept any reasonable suggestion made by the students. Using the exact words the students give, record their responses on the chalkboard or transparency. Don't debate the phrasing or the final selection of a contribution at this time. "Polishing up" comes later as you get into the lesson.)

- What is the best grass seed to use, especially on the north side of the house?
- What procedures should we follow to get rid of moles?
- Should we fertilize our lawns? If so, what fertilizer should we use?

- We also need to know how much fertilizer to use and how to put it on the lawn.
- I think we need to know more than what grass seed is best to use in the shade. What about areas where kids play ball and other sports? We need some tough grass in those areas.
- Maybe some of our problems are due to bugs in the grass, like the circles of dead grass, and stuff.
- How about water? Do we need to water the lawn? Does the grass turn brown because of dry soil?
- My Dad would be happy if we learned how to get rid of dandelions.
- How can we get rid of other kinds of weeds, too, like thistles?
- If we decide to plant grass seed, how can we get the ground ready? Do we have to plow up the grass and start all over again?
- No one has said anything about mowing the grass. Shouldn't we learn something about that? Our grass may be brown because we mow it too often. Who knows! I don't like to mow the lawn, anyhow.
- I remember my neighbor sowing grass seed in the fall. Won't winter be hard on the new grass? Shouldn't grass seed be sown in the spring when the weather is getting warmer instead of colder? Also, how much seed should we sow?
- I think we need to go look at a well-maintained lawn like Mike is talking about. **Ours** surely is not a good example, from what I've been hearing here.

**Caution:** In the discussion of Question 3, "What do we need to know or be able to do to solve or prevent these problems?" **NEVER** say to the students, "Well, there are two [or one or three] more things you need to know or be able to do." This statement will destroy what you have tried to do: develop student ownership in the lesson. Students will respond, "If you already knew all the things we should know, why did you ask us? Just **tell** us what we need to know! Then the lesson will go faster."

As you get into the actual teaching of the lesson, you will need to expand, divide and/or condense the various "things to know." It is your professional responsibility to decide on what sequence and depth and breadth to present these "things."

Before we leave the discussion of Question 3, it is well to remember that the first three questions are primarily the interest approach to the lesson. As we discussed earlier, these questions create a feeling of ownership on the part of the students; they are now directly involved in development of the lesson. These three questions answer the one main question students have at the beginning of a lesson (or of each class): "Why should I learn what you are going to try to teach me today?"

In the preface of this book (page iii), we discussed two reasons why people do what they do: *they want something they don't have*, or *they have something they don't want.* The first three questions in the four-question interest approach help clarify these two reasons. The "wants" and "don't wants" are clearly identified. Students need assistance in this identification process. Once the wishes are identified, you can provide focus on the efforts needed to achieve the wants or eliminate the things not wanted. These make up a major portion of the answer to the student's question, "Why should I learn what you are going to try to teach me today?"

Teachers should be concerned (and they usually are) when students appear to be uninterested in a lesson. Effective teachers know that one of the worst approaches is to tell students, "Pay attention to this lesson because it is very important for you to know this when you get out of school!" You will probably fail to get their attention. Effective teachers also know that few students become motivated to give attention to the lesson or attempt to learn the competencies just because you warn them, "You need to learn this because on Friday I'm going to test you on this lesson!" Question 3, of course, develops the outline of the lesson with the factors the students need to know as the lesson is further developed (with few modifications by the teacher).

What **is** effective, however, is to get students to focus on their "wants" and "don't wants," thus developing a feeling of personal need for the competencies that are to be taught in the lesson. Help students to understand (from the lesson) how they can get "something they want, but don't have," or to eliminate something "they have but don't want."

To achieve this, it can be helpful if you think of the students as coming to class with their "mental fists" closed. At the extreme, some of them may even arrive with the mind-set "I dare you to try to teach me something today!" Their mental fists are closed. Literally, when our hands are in fists, we find it difficult, if not impossible, to accept an object that someone wants to give us. If we are to receive the object and use it effectively, we must first open our fists. Also, you know that it's almost impossible to force someone physically to open a fist without doing that person physical harm. Only the person making the fist can open it – voluntarily – because he/she wants to receive the object offered. The object must be perceived as a thing of value.

In like manner, only **we** can open our own "mental fists." No one can force us to open them. We do it voluntarily because we want to receive the information or skill, attitude and understanding offered to us. We perceive it to be of value to us. For students, the same thought process takes place during the lesson. This value of the lesson was identified and focused on during the interest approach to the lesson. The first three questions of the four-question interest approach identified and clarified for the students the reasons why they should open their mental fists to receive what is offered.

**Question 4: What specific information are we lacking concerning what we said we need to know or be able to do?**

Students are not asked to answer this question as they did the previous three questions. This question is rhetorical – a "lead-in" question to begin teaching the "things we said we need to know or be able to do." This question provides continuity of thought in the problem-solving/ decision-making process.

This question simply provides a means of presenting information (lecture, etc.) rather than leading the students to make a decision or solve a problem. Student performance objectives often begin with a cognitive-domain action verb such as *explain*, *describe*, and *match*. These verbs imply acquisition and use of knowledge by the student rather than performance of a manipulative skill as with the verbs *adjust* or *construct*.

One example of a lesson with cognitive-domain performance objectives is the GRADS lesson on Postnatal Care: Recognize Characteristics of Newborns ("Demonstrate newborn feeding, clothing, and bathing" - page T6-21). The competency builders/pupil performance objectives contain the verbs *identify, match, describe*, and *explain* – all cognitive-domain competencies dealing with knowledge. Question 4 provides continuity of thought in the problem-solving/decision-making process.

Again, remember to review the answers the students gave to Question 3. Some of the things the students said they needed to know or be able to do will be very broad in scope and some will be very specific. It is your professional responsibility to expand or combine these "things," and then to teach them in an appropriate sequence.

### *Teaching the "things we said we need to know or be able to do"*

In the earlier discussion of the four-question interest approach, we stated that this approach provides direction to the teacher in teaching critical-thinking skills – in matching problem-solving/decision-making techniques with lesson content. Let's see how this is accomplished, using the lawn maintenance example. We'll match each of the "things we need to know or be able to do" with the most appropriate problem-solving/decision-making technique to use to simultaneously teach the subject-matter content ("things") and critical-thinking skills (Figure 10).

**Figure 10**

## Lawn Maintenance Example

### Matching *What to Teach* with *How to Teach*

| **WHAT TO TEACH**<br>**(Things we need to know or be able to do)** | **HOW TO TEACH**<br>**(Which problem-solving technique to use)** |
|---|---|
| Best grass seed to use for various areas | Possibilities-Factors |
| When to sow grass seed | Forked-Road |
| Getting rid of moles | Key-Steps |
| Should we fertilize our lawns | Forked-Road |
| Which fertilizer to use | Possibilities-Factors |
| Amount of fertilizer to use | Possibilities-Factors (can be taught together with which fertilizer to use) |
| How to put fertilizer on the lawn | Key-Steps |
| What causes dead circles in the grass | Effect-Cause; Key-Steps (after determining cause) |
| Watering procedures | Key-Steps |
| Getting rid of dandelions and other weeds | Possibilities-Factors; Key-Steps (after determining what to do, e.g., what chemical to use) |
| Preparing the ground for new seed | Forked-Road (deciding to over-seed vs. completely tearing up the old lawn); Key-Steps (after deciding which method to use) |
| Mowing the grass | Key-Steps |
| General evaluation and subsequent renovation of lawn | Situation-to-be-Improved |
| What a "good" lawn looks like | Lecture; field trip; Situation-to-be-Improved |

## Sample Lesson Series Using the Four-Question Approach

The first sample lesson in Technique 6 is actually a series of lessons concerning the nurse assistant's role in promoting "Activities of Daily Living" for a client. The specific lessons originate in the student responses to the third question of the four-question interest approach, *"What do we need to know or be able to do to solve or prevent these problems?"*

The author of these lesson plans, Anne Conner, provides some basic information as well as some basic professional concepts in response to the question, *"What specific information are we lacking concerning what we said we need to know or be able to do?"* She defines some key terms and some professional duties and responsibilities of a nurse assistant. She may have the students locate this information by supervised study, using their textbooks or other references. This information will be used later in the problem-solving/decision-making lessons. The student must have this information (cognitive domain learning) concerning a competency and its builders before he/she can make a decision or solve a problem connected with that competency.

Following this "lecture" – giving facts and information – Conner teaches the "things" that students said they needed to know or be able to do to solve or prevent the identified problems in giving patients help with their personal care activities.

Figure 11 on the next page shows how Conner matches *What to Teach* (student responses to question 3: "What do we need to know and/or be able to do to solve or prevent these problems?") in column 1 with *How to Teach* (which problem-solving technique to use) in column 2. Column 3 lists the problem or decision statement for the selected problem-solving technique.

Following this special series of lessons on the Nurse Assistant by Conner are six sample lesson plans that show planning only through the four questions used in the Four-Question Interest Approach. In each case, additional lessons would be planned and taught to address all the "things we said we need to know and/or be able to do."

For example, in Doug Young's plan, "Prune Plants in the Landscape," (#46, p. T6-39), the student responses to the third question on what we need to know are:

1. What effect pruning has on plants.
2. What the growth habits of plants are.
3. How fast plants grow – their growth rate.
4. How healthy the plant is and what health has to do with pruning.
5. Do flowers affect pruning practices? If so, how do we allow for them when pruning?
6. Where to make the cuts.
7. The best time(s) of year to prune.
8. What tools to use and how to use them properly.

To teach #6 and 8 effectively, give a lesson using the Key-Steps problem-solving technique. To teach #7 effectively, use the Forked-Road or Possibilities-Factors technique.

Figure 11

## Nurse Assistant Lesson Plan

### Matching *What to Teach* with *How to Teach*

Competency/Terminal Performance Objective:
**Observe and record ADL (Activities of Daily Living) in a simulated setting according to facility guidelines.**

| ① WHAT TO TEACH (Things we need to know or be able to do) | ② HOW TO TEACH (Which problem-solving technique to use) | ③ PROBLEM OR DECISION STATEMENT in problem-solving technique lesson plan |
|---|---|---|
| What personal care activities should be done daily? | Q 4: *Information needed*<br>**Key Steps** →<br>**Situation-to-Be-Improved** → | What procedure do we follow when organizing a schedule of personal care activities?<br>What do we need to do differently to have enough clean, ready-to-use linen? |
| What activities can patients do for themselves and what activities do they need help with? | Q 4: *Information needed*<br>**Forked Road** → | Should a patient feed himself/herself or should I assist? |
| How can you help the patient remain independent while still receiving care? | Q 4: *Information needed*<br>**Possibilities-Factors** → | What assistive device(s) would you choose to promote independence in a patient who is having difficulty feeding himself/herself? |
| How can you help patients with personal care procedures? | Q 4: *Information needed*<br>**Effect-Cause** → | What could be the cause(s) of the patient's not getting enough sleep? |

## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Nurse Assistant**
**UNIT:** 6 - Nursing-Related Procedures
**SUBUNIT:** N/A

**A. Conner**
Instructor

### Competency/Terminal Performance Objective

6.0.6 Observe and record ADL in a simulated setting according to facility guidelines.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Lab, classroom | **Number/ Name** | | **Date** | Sept., week 2 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| X | 5. Individual research | X | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

6.0.6.1 Identify major categories of activity in ADL by accurately listing on written test.

6.0.6.2 Identify purpose of promoting client independence in ADL based on NAPT regulations to 70% accuracy.

6.0.6.3 Identify strategies to encourage maximum client independence in ADL in a simulated setting according to skill checklist.

6.0.6.4 Record and report ADL in a clinical setting using skill checklist to 100% accuracy.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.4, 1.0.10, 1.0.22, 2.0.3, 2.0.10, 2.0.18, 3.0.10 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

### Equipment, Supplies, and Other Resources

1. simulated patient situations giving patient diagnosis, ADL and appointment
2. skill checklist
3. schedule worksheet

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | X | 9. Written report(s) |
| X | 5. Written unit test | | |

## Fairfield Career Center
## Nurse Assistant

| | |
|---|---|
| **All 6 Techniques**<br>(Problem-Solving Technique) | **Anne Conner**<br>(Instructor) |

# I. Preparing to Teach

UNIT: 6 - Nursing-Related Procedures
SUBUNIT: N/A

### Competency/Terminal Performance Objective

6.0.6 Observe and record ADL in a simulated setting according to facility guidelines.

### Competency Builders/Pupil Performance Objectives

6.0.6.1 Identify major categories of activity in ADL by accurately listing on written test.

6.0.6.2 Identify purpose of promoting client independence in ADL based on NAPT regulations to 70% accuracy.

6.0.6.3 Identify strategies to encourage maximum client independence in ADL in a simulated setting according to skill checklist.

6.0.6.4 Record and report ADL in a clinical setting using skill checklist to 100% accuracy.

### Integrating Academic Competencies

Communications:

| | | |
|---|---|---|
| Reading | 1.0.4 | Determine solutions to problems. |
| | 1.0.10 | Explain sequence of time, places, events, and ideas. |
| | 1.0.22 | Compare and contrast characters, objects, or events. |
| Writing | 2.0.3 | Record observations. |
| | 2.0.10 | Organize facts, details, and examples in logical order. |
| | 2.0.18 | Use written language to express oneself clearly. |
| Listening | 3.0.10 | Organize ideas. |

Math: N/A
Science: N/A
Safety: N/A

### Equipment, Supplies, and Other Resources

1. simulated patient situations giving patient diagnosis, ADL and appointment
2. skill checklist
3. schedule worksheet

### Present Situation

This class consists of 23 Junior Nurse Assistant students who have received previous instruction in observation, assessment, recording and reporting.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

**Q 1.** How important is it for the Nurse Assistant (NA) to give patients help with their personal care activities?

(Possible student responses)

1. Patients may be too sick to do for themselves.
2. Some people feel they pay for their care and want their money's worth.
3. Patients are more comfortable if they are clean.
4. The NA knows how to give care without damaging the patient's tubes and equipment.
5.

**Q 2.** What problems do we anticipate while providing help with personal care activities?

(Possible student responses)

1. How to avoid embarrassment when we bathe patients or help them use the bathroom.
2. How to keep patients from becoming too dependent on us when they can do for themselves.
3. Some patients might refuse our help.
4. We won't know what to do first.
5.

**Q 3.** What do we need to know or be able to do to correct and/or prevent these problems?

(Possible student responses)

1. What personal care activities to do daily.
2. What activities patients can do for themselves and what activities they need help with.
3. How to help the patient remain independent when still receiving care.
4. How to help patients with personal care procedures.
5.

## II. Presenting the Lesson

**Question 4** **Four-Question**

**What specific information are we lacking concerning what we said we need to know or be able to do?**

A. Definition of **ADL**
   1. **ADL** = Activities of Daily Living
   2. Activities that individuals perform in a personal care program

B. List of ADLs
   1. eating
   2. dressing
   3. grooming - hair, nails, shave
   4. bathing
   5. toileting
   6. oral hygiene
   7. ambulating

C. Influences on ADL
   1. age, developmental abilities
   2. family understanding
   3. peers
   4. illness, handicapping condition

D. Effect of ability or inability to perform ADL on patient's quality of life
   1. loss of control
   2. dependence on others
   3. negative responses

E. Assessment of ADL includes:
   1. ability/inability to perform a task due to illness or handicap
   2. age-related factors
      a. hearing or vision loss
      b. musculo-skeletal changes
   3. mental/psychological factors
      a. orientation to surroundings
      b. willingness to take part in care

F. Promoting independence
   1. Underlying goal of assisting with ADL: to help all patients reach the greatest possible independence in all aspects of their lives.
   2. Result to avoid: unintentionally causing patients to remain helpless by not allowing them to do for themselves.
   3. Never do for patients what they are capable of doing for themselves; supervise their efforts only.
   4. Say to a patient who feels you should do for him/her, "My job is to see that you are in as good condition as you can be. Doing what you can for yourself is important to remaining independent."

**Question 4** *(continued)*

G. Other considerations
  1. Assessment of ADL is initiated by an RN when patient is admitted.
  2. NAs should plan care according to the ADL assessment.
  3. ADLs must be planned around other scheduled activities.
  4. Care must be planned with consideration of the patient's room.

## II. Presenting the Lesson

**Define the Problem**

**Key Steps**

**"What procedure do we follow when organizing a schedule of personal care activities?"**

| What to Do | How to Do It |
|---|---|
| 1. Obtain patient care assignment. | 1. Assignment is given during a verbal or taped report. RN writes it on assignment sheet and gives it to the NA. |
| 2. Check with the charge nurse for specific instructions regarding your assignment. | 2. Add instructions as needed to your assignment sheet. |
| 3. Plan schedule so you can supervise those who do some of their own care while you provide the complete care the others need. | 3. Start patients who can perform ADL for themselves; then give ADL to patients needing complete care. |
| 4. Make rounds of all your patients. | 4. Follow these specific instructions: |
| a. Bring equipment you will need. | a. Use treatment cart to carry equipment to save time and energy. Remember, once equipment is in the room, it is considered contaminated. |
| b. Check patients for special needs. | b. Make certain patient is toileted, dry, and comfortable. |
| c. Inform patient when you expect to return. | c. Telling patients what your schedule is will prevent patient anxiety and interruptions later. |
| 5. Perform ADL according to schedule. | 5. Plan and carry out your schedule according to ADL ability (step 3), including schedules of other departments. |
| 6. Clean and return equipment. | 6. Take nondisposables to the dirty utility room. Place disposables in the appropriate container. |
| 7. Check patients for completeness of care. Check rooms for neatness. | 7. Check especially for oral hygiene, perineal cleanliness, and proper clothing – areas most often performed poorly by patients doing their own ADL. |
| 8. Report any significant findings to your charge nurse. | 8. Give a verbal report immediately if you observe a change in the patient's condition. Otherwise, give your report before leaving the nursing unit. |

## III. Helping Students Apply Concepts/Principles/Skills

Have students work in groups of two or three to prepare a written schedule of care. Give each group an assignment sheet of seven patients. On the assignment sheet, list the patient's diagnosis, ADL assessment, and appointments.

Assign to the students the task of organizing a schedule that will –

1) provide all patients the opportunity to do as much as possible for themselves and
2) meet the individual patient's requirements for ADL while cooperating with the schedule of the health care institution.

Have the students list the patients' names in the order of care given, explaining why they chose that order.

## IV. Evaluating Student Learning

Evaluate the students' patient care schedules according to the following criteria:

1. Identify patients who can perform part or all of their ADL; start them doing their own care before beginning work with the complete care patients.
2. Provide early care on the schedule for the patient with the 9:30 (early) appointment.
3. Supervise care of the patient with cognitive impairment.
4. Schedule time for the total care patients last.

Give a written test over the lecture material presented in **Question 4** of the Four-Question lesson plan (page **T 6**-12).

## II. Presenting the Lesson

**Define the Problem**

**Forked Road**

(Place decision to be made on chalkboard.)

**"Should a patient feed himself/herself or should I assist?"**

| Factors to Consider | Choice One | Choice Two |
|---|---|---|
| | **Patient Feeds Self** | **NA Feeds Patient** |
| 1. Emotional needs of the patient | Feels pride in accomplishment.<br>Needs to assert independence. | Feels and shows frustration at difficulty of task.<br>Shows embarrassment at sloppiness of feeding self. |
| 2. Strength/Fatigue | Has strength to feed self without fatigue. | Easily fatigued; unable to complete task. |
| 3. Availability of Occupational Therapist (OT) assessment | OT assesses self-help tools (assistive devices) as appropriate. | OT not available; or OT assesses assistive devices as not helpful. |
| 4. Availability of assistive devices | Patient is able to use utensils by self or with assistive device. | Patient is unable to use utensils by self or with assistive device. |

**Decision/Recommendation**

The Nursing Assistant (NA) will encourage self-feeding after making an assessment of ability (or according to the Occupational Therapist's assessment), using assistive devices as needed.

## III. Helping Students Apply Concepts/Principles/Skills

"Encumber" students with tape on their fingers and oversized work gloves. Then have them feed themselves and experience the physical difficulty and emotional frustration involved.

## IV. Evaluating Student Learning

Have students respond to the following:

- State what ancillary department assesses and prescribes assistive devices.
- Describe why you were frustrated or embarrassed when feeding yourself.

## II. Presenting the Lesson

**Define the Problem** **Possibilities-Factors**

(Develop chart on chalkboard through questioning related to application of forked-road lesson plan.)

**"What assistive device(s) would you choose to promote independence in a patient who is having difficulty feeding himself/herself?"**

| Factors to Consider | Possibilities | | | |
|---|---|---|---|---|
| | Regular Utensils | Built-up Utensils | Round-edged Knife | Divided Suction-cup Plate |
| 1. Inability to close hand (grasp utensil) | unable to use | needed | not needed | not needed |
| 2. Inability to put food on utensil | unable to use | not needed | not needed | needed |
| 3. Inability to cut food | unable to use | not needed | needed | not needed |

**Decision/Recommendation**

Patients with identified problems feeding themselves can be equipped with specific assistive devices to promote independence in eating.

## III. Helping Students Apply Concepts/Principles/Skills

Give each student a catalog of self-help (assistive) devices and a case study of a patient. Ask each student to find the appropriate assistive device(s) in the catalog to meet the specific needs of his/her case-study patient. Have the students state why they chose that device (or those devices).

## IV. Evaluating Student Learning

Give students a written test in which they are to match a picture of the correct assistive device to the stated feeding problem.

On a case-study worksheet, ask:

- Does the selected assistive device fulfill the stated need?
- Does the stated reason for the device correspond with the problem?

## II. Presenting the Lesson

**Define the Problem** | **Situation-to-Be-Improved**

(Develop this chart on chalkboard with students' help.)

Linen is not folded properly or put away in the correct place. The class runs out of clean linen.
**What do we need to do differently to have enough clean, ready-to-use linen?**

| Characteristics to Be Considered | What & Why | Current Situation | Recommendations |
|---|---|---|---|
| 1. Linen must be washed and dried daily. | Must maintain a sufficient supply of linen for the next day, too. | Linen is washed and dried only at the instructor's constant nagging. | Assign a row of students to put loads of linen in the washer at noon, 1:00 pm, and 2:00 pm. |
| 2. Linen must be folded properly. | Correct folding is necessary for making a hospital bed efficiently. | Linen is not folded lengthwise with hems on the outside. | Review folding procedure with all students. Assign one row of students per week to fold linen. |
| 3. Linen must be put in the cupboard correctly. | Looking for linen that is out of place or replacing linen taken from the wrong shelf is a waste of time. | Linen is often put away on the wrong shelf. | Label shelves. Assign a row of students per week to put linen away efficiently. |

**Decisions/Recommendations**:

The shelves need to be labeled. Devise a system for washing and drying the linen every day and for putting it away on the correct shelf. Review with students the procedure for folding linen.

## III. Helping Students Apply Concepts/Principles/Skills

Assign students their daily tasks by row. Have them label the shelves. Have the students wash, dry, fold, and put linen away according to the plans made as a class.

## IV. Evaluating Student Learning

Check the quality of the students' work while it is in progress.
When the students' jobs have been well done, dismiss them early to go to their lockers as a reward.

## II. Presenting the Lesson

**Define the Problem** **Effect - Cause**

(Develop on chalkboard with students' help.)

Mr. Jones, your 47-year-old patient, complains to you that he is getting no sleep in the hospital. He was admitted two days ago for tests.
**What could be the cause(s) of the patient's not getting enough sleep?**

| Possible Causes | Related Facts | Accept/Reject Cause |
|---|---|---|
| 1. Age | As people age, they need less sleep. Mr. Jones is 47 years old. | reject |
| 2. Eating | Caloric intake before bedtime interferes with sleep. Mr. Jones drinks a cola every evening with a snack of potato chips. | accept |
| 3. Environment | Comfortable room temperature and a quiet atmosphere help people fall asleep. The hospital is quiet. | reject |
| 4. Exercise | Moderate exercise increases relaxation; strenuous exercise before bedtime can activate body functions and keep patients awake. Mr. Jones has had no exercise; he usually works outdoors as a construction worker. | accept |
| 5. Illness | Illness disrupts normal sleep and causes the need for more sleep. Pain can prevent sleep. Mr. Jones is not ill or in pain. | reject |

**Decision/Recommendation**

The change of routine from being physically active to lying in a hospital bed all day has interrupted Mr. Jones' sleep pattern. Providing activity during the day and changing to a caffeine-free, low-calorie snack at bedtime should help Mr. Jones sleep.

## III. Helping Students Apply Concepts/Principles/Skills

Assign each student to survey three different age groups about their sleep patterns and routines. Then have the students compare the survey results with the factors they have found affecting sleep.

## IV. Evaluating Student Learning

Give each student a case history of a patient with an interrupted sleep pattern. Ask each to identify the cause(s).

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

| | | |
|---|---|---|
| **PROGRAM:** | **GRADS** | **T. Branham**<br>Instructor |
| **UNIT:** | 2 - Pregnancy | |
| **SUBUNIT:** | 2.2 - Postnatal Care | |

### Competency/Terminal Performance Objective

2.2.2 Demonstrate newborn feeding, clothing, and bathing when given all necessary equipment and resources. All items on the performance assessment should be rated acceptable.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | Room 203 | **Date** | 4th week |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | X | 8. A/V presentation(s) |
| | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| X | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

2.2.2.1 Identify (correctly) five common conditions present at birth, when using pictures of newborns.

2.2.2.2 Match (correctly) the reflex to the description when provided with two lists: one of reflexes and the other of their descriptions.

2.2.2.3 Describe bonding between mother and baby, using current, reliable resources. Give at least two examples that illustrate it.

2.2.2.4 Explain (accurately) initial post-delivery care of a newborn, using current, reliable resources. Explanation should include APGAR test, triage nursery observations and procedures, and circumcision.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.11, 2.0.9, 2.0.10, 2.0.15, 3.0.1, 4.0.3 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

### Equipment, Supplies, and Other Resources

1. chart of newborn appearance
2. chart of newborn reflexes
3. student handout on matching reflexes and descriptions
4. student handout on bonding
5. overhead transparency on APGAR scoring; overhead projector
6. student handout on triage nursery procedures
7. *Developing Child* texts
8. current pregnancy and parenting magazines

*(continued)*

**Schedule** *(continued)*

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Eastland Vocational School**
**GRADS**

| **Four-Question**<br>(Problem-Solving Technique) | **Teresa Branham**<br>(Instructor) |
|---|---|

## I. Preparing to Teach

| | |
|---|---|
| UNIT: | 2 - Pregnancy |
| SUBUNIT: | 2.2 - Postnatal Care |

**Competency/Terminal Performance Objective**

2.2.2 Demonstrate newborn feeding, clothing, and bathing when given all necessary equipment and resources. All items on the performance assessment should be rated acceptable.

**Competency Builders/Pupil Performance Objectives**

2.2.2.1 Identify (correctly) five common conditions present at birth, when using pictures of newborns.
2.2.2.2 Match (correctly) the reflex to the description when provided with two lists: one of reflexes and the other of their descriptions.
2.2.2.3 Describe bonding between mother and baby, using current, reliable resources. Give at least two examples that illustrate it.
2.2.2.4 Explain (accurately) initial post-delivery care of a newborn, using current, reliable resources. Explanation should include APGAR test, triage nursery observations and procedures, and circumcision.

**Integrating Academic Competencies**

Communications:

| | |
|---|---|
| 1.0.11 | Differentiate facts and opinions. |
| 2.0.9 | Write legibly. |
| 2.0.10 | Organize facts, details, and examples in logical order. |
| 2.0.15 | Write complete sentences. |
| 3.0.1 | Demonstrate effective listening skills. |
| 4.0.3 | Participate in discussions. |

Math: N/A
Science: N/A
Safety: N/A

**Equipment, Supplies, and Other Resources**

1. chart of newborn appearance
2. chart of newborn reflexes
3. student handout on matching reflexes and descriptions
4. student handout on bonding
5. overhead transparency on APGAR scoring; overhead projector
6. student handout on triage nursery procedures
7. *Developing Child* texts
8. current pregnancy and parenting magazines

## Lesson Outline *(continued)*

### Present Situation

The composition of this class changes from week to week. There are usually 6-8 students, both pregnant and parenting. The students are at very different levels of experience and knowledge about newborns.

### Interest Approach

(Place questions and student responses on chalkboard.)

**Q 1.** What important things are going to happen with your newborn immediately after birth?

(Possible student responses)

- suctioning
- identification bracelet
- footprinting
- temperature taken
- warming with blankets, on mom's chest, on warming tray
- eye drops
- vitamin K injection
- jaundice blood check
- weighed, measured
- APGAR assessment
- cord clamped and cut
- bathed

**Q 2.** What problems have we heard about happening immediately after birth?

(Possible student responses)

- miscellaneous health complications
- baby taken away, so lack of bonding
- baby taken away, so couldn't breastfeed immediately
- mom too stressed or sick to bond well

**Q 3.** What do we need to know to be prepared for these problems and procedures?

(Possible student responses)

- What is common in a newborn baby's appearance?
- What nursery procedures are normal?
- What are the signs of medical/health problems?
- What is bonding and why is it important?

## II. Presenting the Lesson

**Question 4** | **Four-Question**

**What specific information are we lacking concerning what we said we need to know and/or be able to do?**

I. Normal newborn appearance (see *Healthy Newborn* chart)
   A. vernix
   B. cyanotic hands and feet
   C. molded head
   D. milia
   E. dry, peeling skin
   F. swollen genitalia
   G. crossed eyes
   H. birth marks
   I. lanugo hair

II. Nursery procedures immediately after birth
   A. suctioning
   B. identification (with bracelet)
   C. temperature monitoring
   D. warming on mother's chest or tray
   E. eye medication
   F. vitamin K injection
   G. heel sticks
   H. weight and length measurement
   I. clamping and cutting the cord
   J. APGAR scoring at 1 minute and 5 minutes after birth (see *Developing Child*, p. 135)
   K. bathing

III. Signs of medical/health problems
   A. visible birth defects
   B. problems depicted through APGAR scores
   C. unsatisfactory response to reflex checks
      1. rooting reflex
      2. Moro reflex
      3. grasp reflex
      4. tonic neck reflex
      5. walking reflex
      6. Babinski toe reflex
      7. plantar toe reflex

IV. Importance of bonding (see *Healthy Newborn* chart)
   A. Babies are naturally extremely responsive to external stimuli for a time immediately after birth.
   B. Mother also experiences increased sensitivity that facilitates bonding.
   C. Skin-to-skin contact of mother and baby is best.
   D. Bonding encourages the baby to use all five senses.

## III. Helping Students Apply Concepts/Principles/Skills

Divide students into small groups. Give each group two tasks to complete:

1. Give each group the name of a condition present at birth (e.g., vernix, birth marks, milia, etc.). Assign them to find a picture depicting that condition in a book or magazine. Then have them share their picture with the rest of the class.
2. Have each group find a picture in a book or magazine that they think shows bonding. Have them explain to the group what they think is going on in the picture that promotes bonding between baby and parent(s).

## IV. Evaluating Student Learning

Through the sharing of group activities, evaluate informally what the students are learning in groups. Give each student a quiz to complete on matching reflexes and their descriptions.

# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Agriscience III-IV**
**UNIT:** X - Agricultural Mechanics
**SUBUNIT:** X.X - Construction

**P. Heilman**
Instructor

## Competency/Terminal Performance Objective

X.X.X Lay out a building site, using a surveyor's level. Site must meet specifications in the building plans.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | School grounds | **Number/ Name** | Land lab #3 | **Date** | Oct., week 3 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

After preliminary discussion in the classroom concerning uses of surveying equipment, parts, and their functions, I will demonstrate the use of the equipment. Several students will then perform the procedures. We will do some practice calculations. Students will then work in groups to complete a profile of the football field for application of skills.

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| X | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | X | 11. Case problem(s) |
| X | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

X.X.X.1 Set up the surveyor's level for use when given the set of building plans. Setup should match the directions for the surveyor's level.
X.X.X.2 Read the measurements on the level rod when given proper signal by the person using the level. Reading should be 100% accurate.
X.X.X.3 Calculate elevations with 100% accuracy and use them in marking the layout stakes.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.2, 2.0.3, 3.0.1 |
| Math: | 2.6.2, 2.6.3, 3.6.3 |
| Science: | 9, 10 |
| Safety: | 12 |

## Equipment, Supplies, and Other Resources

1. surveyor's level
2. tripod
3. level rod
4. writing board or table
5. paper & pencils
6. transparencies (T) and job sheets/worksheets (H): T-1, T-2, H-1, H-2, H-3, H-4, H-5, H-6

*(continued)*

**Schedule** *(continued)*

**Evaluation/Performance Assessment**

| | | | |
|---|---|---|---|
| X | 1. Written quiz | X | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | X | 9. Written report(s) |
| X | 5. Written unit test | | |

## Cory-Rawson High School
## Agriscience III-IV

| Four-Question<br>(Problem-Solving Technique) | Paul E. Heilman<br>(Instructor) |
|---|---|

# I. Preparing to Teach

UNIT: X - Agricultural Mechanics
SUBUNIT: X.X - Construction

### Competency/Terminal Performance Objective

X.X.X Lay out a building site, using a surveyor's level. Site must meet specifications in the building plans.

### Competency Builders/Pupil Performance Objectives

X.X.X.1 Set up the surveyor's level for use when given the set of building plans. Setup should match the directions for the surveyor's level.
X.X.X.2 Read the measurements on the level rod when given proper signal by the person using the level. Reading should be 100% accurate.
X.X.X.3 Calculate elevations with 100% accuracy and use them in marking the layout stakes.

### Integrating Academic Competencies

Communications:
- 1.0.2 Select and use appropriate reference sources and illustrative materials when given an assignment sheet.
- 2.0.3 Record observations when presented data.
- 3.0.1 Demonstrate effective listening skills when given verbal directions.

Math:
- 2.6.2 Compute using appropriate units of measurement when recording and calculating elevations and distances.
- 2.6.3 Read scale on measurement device(s) to nearest mark and make interpolations where appropriate when using the level rod.
- 3.6.3 Collect and organize data into tables, charts, and/or graphs when surveying exercise is completed.

Science:
- 9 Explain the principles of simple machines such as the inclined plane when operating the leveling screws while using a surveyor's level.
- 10 Explain the effect of heating and cooling (expansion, contraction, and distortion) on metal and the effect on the surveying equipment.

Safety:
- 12 Prevent damage to tools, equipment, building facilities, etc. when using the surveying equipment.

## Lesson Outline *(continued)*

### Equipment, Supplies, and Other Resources

1. surveyor's level
2. tripod
3. level rod
4. writing board or table
5. paper & pencils
6. transparencies (T) and job sheets/worksheets (H): T-1, T-2, H-1, H-2, H-3, H-4, H-5, H-6

### Present Situation

This class consists of 24 Juniors and Seniors. Over half have had Agriscience I and II. All have a basic understanding of measuring techniques. Eighteen of the students live in rural areas where field tiling has been done and/or home construction has taken place.

### Interest Approach

(Place questions A through D and numbered student responses on chalkboard.)

"I am going to read you a detailed description of a certain place you are familiar with. Do you think you can locate the place?" (Pause, then read the legal description on the deed of the Outdoor Education Center. Ask the following questions.)

**A.** What place did I describe?

1. the school
2. the football field
3. Outdoor Education Center
4. I have no idea.
5.

**B.** What makes it difficult to locate the place?

1. too much detail
2. unfamiliar terms
3. You read too fast.
4. I couldn't follow.
5.

**C.** What would you need on hand to use all the directions correctly?

1. plat map (show to class)
2. surveyor's level (show to class, and lead into next question)
3.

**D.** Consider the surveyor's level. What else could it be used for?

1. tile installation
2. sod waterway construction
3. building construction
4. septic tank and absorption field installation
5. landscaping and excavation
6.

**Lesson Outline** *(continued)*

**Interest Approach** *(continued)*

**Q 1.** Why is it important to be able to use a surveyor's level?

(Possible student responses)

a. to build buildings squarely
b. to drain fields properly
c. to prevent sewage problems
d. to design landscaped areas correctly
e.

**Q 2.** What problems might we encounter using a surveyor's level?

(Possible student responses)

a. equipment set up incorrectly
b. inaccurate readings
c. parts of the equipment misused
d. misreading the level rod
e.

**Q 3.** What do we need to know or be able to do to prevent these problems?

(Possible student responses)

a. Follow proper procedure for equipment setup.
b. Know the parts of the equipment and how they work.
c. Know how to read the measurements on the level rod.
d. Know how to calculate elevations and use them.
e.

## II. Presenting the Lesson

**Question 4** **Four-Question**

**What specific information are we lacking concerning what we said we need to know and/or be able to do?**

(Review all parts and functions; write on board. Use actual level for reinforcement of location of parts.)

A. The Parts of the Surveyor's Level (T-1, H-1)

1. eyepiece - focuses the crosshairs
2. focusing screw - focuses target
3. sunshade - shades light for clearer viewing in any weather
4. bubble tube - used to level the instrument
5. clamp - locks instrument in place
6. slow-motion screws - make fine lateral movements
7. leveling head - used to level the instrument
8. head place - attaches to tripod
9. leveling screws - adjusted to level the instrument
10. tripod - three-legged stand
11. leg thumb screws - tighten tripod legs
12. telescoping barrel - magnifies target

B. Focusing the Crosshairs and the Target

(Write on board and follow up with actual practice.)

1. To focus the crosshairs, rotate the eyepiece until lines become sharp and clear.

(Draw diagram on board.)

2. To focus the target:- After crosshairs are focused, rotate focusing screw until target is clear.

C. Reading the Level Rod (T-2, H-2)

(Write on board; use actual rod to show colors.)

1. Red numbers designate feet.
2. Black numbers designate tenths of feet.
3. Black and white marks show hundredths of feet.

(Point out significance of pointed black marks.)
(Mark several example lines on T-2 to use as practice readings.)

D. Setting Up and Adjusting the Surveyor's Level
(Refer to Job Sheet H-3.)

Select two or three students to perform the procedure while the others read the steps. All students should demonstrate setup before finishing the unit.

**Question 4** *(continued)*

E. Care of the Surveyor's Level

(Write on board.)

1. Protect against shock.
2. Keep in box except when in use.
3. Place lens cap and tripod cap in box after removing.
4. Never force any adjustments.
5. Use sunshade regardless of weather.
6. Clean lens with soft tissue.
7. Do not move instrument from shade into sunlight without loosening the leveling screws.

F. Calculating Surveying Problems (H-4, Job Sheet H-5)

(Write on board.)

1. Key calculations (see H-4 for definitions)

   ○ Start with a known **bench mark** (BM) (usually set at 100 feet elevation).

   ○ Calculate the **height of instrument** (HI):
   HI = backsight (BS) + last known elevation

   ○ Calculate new elevation:
   elevation = HI – foresight (FS)

2. Complete a profile leveling (Job Sheet H-5).

   Give students H-5 and work through steps of the sample problem. Optional practice may be given on Assignment Sheet 1.

## III. Helping Students Apply Concepts/Principles/Skills

Divide students into two groups of 6 or 7 each. Give each the assignment to complete a profile leveling of the football field at the school. Each group should consist of an engineer, assistant engineer, recorder, and crew members. Have them take elevation readings at five equidistant locations across the field every 20 yards down the field. The readings are to be recorded on Field Notes Sheet H-6. After all elevations have been calculated, have each team graph each yard line and determine the percent slope. Also have them graph each of the five lines of elevation down the field. They will use these later when they are assigned to plan a drainage system in the drainage unit.

## IV. Evaluating Student Learning

Evaluate student performance in this lesson with the following items. A suggested point value is given for each item.

| | |
|---|---|
| Quizzes (3) | 30 points (total) |
| Unit test | 70 |
| Practical skills | |
| Setup | 10 |
| Leveling | 10 |
| Reading | 10 |
| Practice problem | 25 |
| Group leveling job | 40 |
| Work skills | 20 |
| TOTAL | 215 points |

## ㊺ INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

| | | |
|---|---|---|
| **PROGRAM:** | **Cosmetology** | **L. Hollingsworth**<br>Instructor |
| **UNIT:** | 10 - Hair Coloring | |
| **SUBUNIT:** | N/A | |

### Competency/Terminal Performance Objective

10.0.1 Prepare client for hair color treatment in salon by (1) consultation, (2) educating client in daily care, (3) administering predisposition test, (4) selecting hair color formula, (5) applying strand test, (6) analyzing hair and scalp, (7) practicing safety, and (8) completing a release statement and the client record. All procedures must be according to those in an approved cosmetology textbook.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Cosmetology lab | **Number/ Name** | Room 114 | **Date** | Jan., week 3 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | X | 12. Other - Give patch test to each other |

### Competency Builders/Pupil Performance Objectives

10.0.1.4 Select and apply hair color predisposition test using reference information. Follow procedures in approved cosmetology textbook and according to Ohio State Board of Cosmetology (OSBC) guidelines.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 2.0.3, 2.0.9, 3.0.3, 4.0.8 |
| Math: | 1.6.5 |
| Science: | 15 |
| Safety: | 5 |

### Equipment, Supplies, and Other Resources

1. gloves
2. mixing bowl & tint brush
3. $H_2O_2$
4. tint mixture
5. soap solution
6. color card
7. cotton
8. manufacturer's directions
9. *Standard Cosmetology Textbook*, page 235

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | X | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Eastland Career Center**
**Cosmetology**

**Four-Question**
(Problem-Solving Technique)

**Liz Hollingsworth**
(Instructor)

## I. Preparing to Teach

UNIT: 10 - Hair Coloring
SUBUNIT: N/A

**Competency/Terminal Performance Objective**

10.0.1 Prepare client for hair color treatment in salon by (1) consultation, (2) educating client in daily care, (3) administering predisposition test, (4) selecting hair color formula, (5) applying strand test, (6) analyzing hair and scalp, (7) practicing safety, and (8) completing a release statement and the client record. All procedures must be according to those in an approved cosmetology textbook.

**Competency Builders/Pupil Performance Objectives**

10.0.1.4 Select and apply hair color predisposition test using reference information. Follow procedures in approved cosmetology textbook and according to Ohio State Board of Cosmetology (OSBC) guidelines.

**Integrating Academic Competencies**

Communications:
  2.0.3 Record observations.
  2.0.9 Write legibly.
  3.0.3 Communicate appropriately with coworkers, clients, and supervisors.
  4.0.8 Give oral directions.
Math:
  1.6.5 Set up, solve, and apply ratios and proportions.
Science:
  15 Explain the effects of chemicals when in contact with moisture and human tissue.
Safety:
  5 Prevent conditions causing chemical damage to the human body, clothing, and similar items.

**Equipment, Supplies, and Other Resources**

1. gloves
2. mixing bowl & tint brush
3. $H_2O_2$
4. tint mixture
5. soap solution
6. color card
7. cotton
8. manufacturer's directions
9. *Standard Cosmetology Textbook*, page 235

**Lesson Outline** *(continued)*

## Present Situation

This class of 19 Juniors consists of students with no previous experience in giving a predisposition test to themselves or to clients. This is the beginning of the unit on Hair Coloring.

## Interest Approach

(Place questions and student responses on chalkboard.)

An allergy is an unpredictable reaction due to an extreme sensitivity to certain object(s).

**Q 1.** What are some things people are allergic to?

(Possible student responses)
1. foods
2. medicines
3. pollen
4. dust
5. shampoo & soaps
6. detergents
7. perfumes
8. chemicals
9. insect stings
10. hair coloring

**Q 2.** What reaction can occur if a person is allergic to a substance?

(Possible student responses)
1. rash
2. hives
3. itching
4. redness
5. headache
6. asthma attack
7. vomiting

**Q 3.** What can be done to prevent an allergic reaction?

(Possible student responses)
1. Avoid the substance.
2. Have an allergy test done; (also known as patch test or predisposition test).
3. Stay indoors.
4. Wear rubber gloves.
5. Wear mask.

## II. Presenting the Lesson

**Question 4** **Four-Question**

**What specific information are we lacking concerning what we said we need to know and/or be able to do?**

To avoid a severe allergic reaction to a hair color project, we will give an allergy (predisposition) test to determine if you are allergic or your client is allergic to hair coloring.

A. Supplies needed to give predisposition (allergy) test
   1. mixture of tint and hydrogen peroxide
   2. sterile cotton
   3. soap solution
   4. mixing bowl and tint brush
   5. record card

B. Area used for test application
   1. behind the ear, partly in hair and partly on skin
   2. inner fold of elbow

C. Application of predisposition test
   1. Cleanse area with soap solution using cotton.
   2. Dry cleansed test area.
   3. Prepare test mixture according to manufacturer's instructions. (Math 1.6.5)
   4. Apply to test area with cotton.

D. Instruct the client. (Communications 3.0.3, 4.0.8)
   1. Leave test area undisturbed for 24-28 hours.
   2. Examine test area for positive or negative results. (Safety 5)
   3. Explain effects of chemicals on the skin. (Science 15)

E. Record results. (Communications 2.0.3, 2.0.9)

## III. Helping Students Apply Concepts/Principles/Skills

First, demonstrate the proper way to give a predisposition test. Then have each student get a partner, prepare a tint mixture for application, and apply it to each other. Have them record the result for each student on an individual record card after 24 hours.

## IV. Evaluating Student Learning

The project will be complete when each student has given (and received) a predisposition test. In the dispensary, observe the procedure of each student. Finally, give students a related written test that will demonstrate their mastery of the lesson.

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## INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Floral and Landscape Science**
**UNIT:** X - Landscaping
**SUBUNIT:** X.X - Maintaining Plants

**D. Young**
Instructor

### Competency/Terminal Performance Objective

X.X.X Prune (given) plants when provided common pruning tools. All items on the performance assessment must be rated acceptable.

| | | | |
|---|---|---|---|
| **Learning Center** | Lab | **Number/ Name** | **Date** March, week 4 |

### Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

### Competency Builders/Pupil Performance Objectives

X.X.X.1 Use common pruning tools (hand pruner, lopper, hedge shear, and pruning saw) when provided shrubbery to prune. All items on the performance assessment must be rated acceptable.

### Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.2, 2.0.3, 3.0.1 |
| Math: | N/A |
| Science: | 4 |
| Safety: | 1 |

### Equipment, Supplies, and Other Resources

1. various plant stems
2. hand pruner
3. lopper
4. hedge shear
5. pruning saw

### Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| | 1. Written quiz | | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| X | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Live Oaks Career Center**
**Floral and Landscape Science**

|  |  |
|---|---|
| **Four-Question**<br>(Problem-Solving Technique) | **Doug Young**<br>(Instructor) |

# I. Preparing to Teach

UNIT: X - Landscaping
SUBUNIT: X.X - Maintaining Plants

## Competency/Terminal Performance Objective

X.X.X Prune (given) plants when provided common pruning tools. All items on the performance assessment must be rated acceptable.

## Competency Builders/Pupil Performance Objectives

X.X.X.1 Use common pruning tools (hand pruner, lopper, hedge shear, and pruning saw) when provided shrubbery to prune. All items on the performance assessment must be rated acceptable.

## Integrating Academic Competencies

Communications:
- 1.0.2 Select and use appropriate reference sources and illustrative materials.
- 2.0.3 Record observations.
- 3.0.1 Demonstrate effective listening skills.

Math: N/A
Science: 4 Explain the concepts of plant reproduction.
Safety: 1 Prevent cuts and abrasions from tools and equipment.

## Equipment, Supplies, and Other Resources

1. various plant stems
2. hand pruner
3. lopper
4. hedge shear
5. pruning saw

## Present Situation

This class consists of 20 Juniors and 12 Seniors. The Juniors have no experience in pruning. The Seniors have some basic background understanding and limited experience.

## Lesson Outline *(continued)*

### Interest Approach

(Place questions and student responses on chalkboard.)

**Q 1.** How important is it to prune plants?

(Possible student responses)
1. We need to maintain the shape of the plant.
2. Dead wood has to be removed.
3. Pruning reduces the size of the plant.
4. Pruning improves the appearance of many plants.
5.

**Q 2.** What problems have you had while pruning? Do you have questions about pruning?

(Possible student responses)
1. I didn't know (and still don't know) where to cut.
2. I don't know **when** to prune.
3. I'm not sure what kind of tool to use or how to use it properly.
4. Knowing where to cut is one thing. How can I learn how much to cut off?
5.

**Q 3.** What do you need to know and/or be able to do to correct and/or prevent these problems?

(Possible student responses)
1. What effect pruning has on plants
2. What the growth habits of plants are
3. How fast plants grow – their growth rate
4. How healthy the plant is and what health has to do with pruning
5. Do flowers affect pruning practices? If so, how do we allow for them when pruning?
6. Where to make the cuts
7. The best time(s) of year to prune
8. What tools to use and how to use them properly
9.

## II. Presenting the Lesson

**Question 4** **Four-Question**

**What specific information are we lacking concerning what we said we need to know and/or be able to do?**

A. Equipment needed to prune plants
   1. hand pruner
   2. lopper
   3. hedge shear
   4. pruning saw

B. Concept of apical dominance
   1. Apical bud produces an auxin (hormone) that prevents bud development below that bud.
   2. Removing the apical bud stops production of the auxin and allows bud development along the stem.

C. Where does bud development occur?
   Answer: Bud development occurs at the union of leaf petiole and stem.

D. The proper time to prune
   1. following flowering
   2. following flush of spring growth

E. How much material should be removed?
   1. Slow growth-rate plants require light pruning.
   2. Fast growth-rate plants require heavier pruning.

F. How can diseased or insect-damaged plant parts be successfully pruned?
   Answer: Remove **all** damaged wood and some healthy wood next to it.

(Demonstrate the use of various tools. Show students where to cut on the stems, how much to cut off, and other skills. Identify insect- and disease-damaged plants. Have the students follow along in their reference books while you explain and demonstrate pruning skills.)

## III. Helping Students Apply Concepts/Principles/Skills

As you demonstrate each tool, have one of the students name it. Give the students some stems to practice with. Ask them to label their stems with masking tape and name each one.

## IV. Evaluating Student Learning

Grade the pruning cuts the students make as either satisfactory or unsatisfactory. Also grade them on how they handled the tools – either satisfactory or unsatisfactory.

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# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **IBE Word Processing**
**UNIT:** 5 - Support Tasks
**SUBUNIT:** N/A

**J. Schoener**
Instructor

## Competency/Terminal Performance Objective

5.0.5 Generate minutes when provided access to a professional meeting. Minutes should be prepared according to office procedures listed in student notebooks.

| | | | | | |
|---|---|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | IBE - 68 | **Date** | Feb., week 1 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | X | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

5.0.5.3 Prepare minutes when given the recorded notes of the meeting. Minutes should include group name, time, date, place of meeting, presiding officer, persons attending, approval of previous meetings, committee reports, old or unfinished business, new business, next meeting date, adjournment, and the secretary's name.

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 1.0.13, 1.0.15, 1.0.20<br>2.0.2, 2.0.3, 2.0.4, 2.0.5, 2.0.9, 2.0.10, 2.0.12, 2.0.13, 2.0.14, 2.0.15, 2.0.18, 2.0.19<br>3.0.1, 3.0.4, 3.0.6, 3.0.7, 3.0.10, 3.0.13<br>4.0.2, 4.0.3, 4.0.8, 4.0.10, 4.0.12 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

## Equipment, Supplies, and Other Resources

1. *Office Systems and Procedures* textbook
2. chapter outline (handout)
3. sample minutes of a meeting (handout)
4. pen & paper
5. chalkboard & chalk

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | X | 9. Written report(s) |
| X | 5. Written unit test | | |

**Franklin Heights High School**
**IBE Word Processing**

| **Four-Question**<br>(Problem-Solving Technique) | **Jill Schoener**<br>(Instructor) |
|---|---|

# I. Preparing to Teach

UNIT: 5 - Support Tasks
SUBUNIT: N/A

**Competency/Terminal Performance Objective**

5.0.5 Generate minutes when provided access to a professional meeting. Minutes should be prepared according to office procedures listed in student notebooks.

**Competency Builders/Pupil Performance Objectives**

5.0.5.3 Prepare minutes when given the recorded notes of the meeting. Minutes should include group name, time, date, place of meeting, presiding officer, persons attending, approval of previous meetings, committee reports, old or unfinished business, new business, next meeting date, adjournment, and the secretary's name.

**Integrating Academic Competencies**

Communications:

| | | |
|---|---|---|
| Reading: | 1.0.13 | Determine author's purpose. |
| | 1.0.15 | Summarize material. |
| | 1.0.20 | Identify main idea and supporting details. |
| Writing: | 2.0.2 | Revise written material. |
| | 2.0.3 | Record observations. |
| | 2.0.4 | Prepare written report(s). |
| | 2.0.5 | Prepare first draft. |
| | 2.0.9 | Write legibly. |
| | 2.0.10 | Organize facts, details, and examples in logical order. |
| | 2.0.12 | Demonstrate completeness in all written materials. |
| | 2.0.13 | Use correct grammar. |
| | 2.0.14 | Use correct spelling. |
| | 2.0.15 | Write complete sentences. |
| | 2.0.18 | Use written language to express oneself clearly. |
| | 2.0.19 | Use appropriate punctuation and capitalization. |
| Listening: | 3.0.1 | Demonstrate effective listening skills. |
| | 3.0.4 | Identify sources of information. |
| | 3.0.6 | Follow directions. |
| | 3.0.7 | Evaluate spoken communications. |
| | 3.0.10 | Organize ideas. |
| | 3.0.13 | Recognize propaganda and other persuasive ideas. |
| Speaking: | 4.0.2 | Use nonverbal messages. |
| | 4.0.3 | Participate in discussions. |
| | 4.0.8 | Give oral directions. |
| | 4.0.10 | Give clear explanations. |
| | 4.0.12 | Use appropriate language. |

| | |
|---|---|
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

**Lesson Outline** *(continued)*

## Equipment, Supplies, and Other Resources

1. *Office Systems and Procedures* textbook
2. chapter outline (handout)
3. sample minutes of a meeting (handout)
4. pen & paper
5. chalkboard & chalk

## Present Situation

This Intensive Business Education (IBE) class consists of 15 Juniors. All of them have a basic understanding of the proper procedures to use when conducting a business meeting.

## Interest Approach

(Review with the class what minutes are; show them an example.
Place questions and student responses on chalkboard.)

"After a meeting has been held, I ask you, as secretary of the organization, to keyboard the minutes of the meeting. How many of you would be able to keyboard the minutes accurately?"

**Introductory question:**
Why do you think there is a need to take minutes at a meeting?
(Listening 3.0.1, 3.0.4, 3.0.7, 3.0.10; Speaking 4.0.3, 4.0.10, 4.0.12)

(Possible student responses)

1. So people will know what actually took place at the meeting.
2. So members who were absent can find out what they missed.
3. So members who claim that a certain subject was discussed during a meeting can prove it.
4. When you vote on something during a meeting, it should be documented.
5.

**Q 1.** How important are accurate minutes of a business meeting?

(Possible student responses)

1. They are a permanent record of what the organization is doing.
2. Organizations can get into trouble if records are not accurate.
3. If meeting participants want to change their minds about a certain action taken, they need an accurate record of what action was taken in previous meetings.
4. Records of minutes need to be in a format easy to understand and neat so they can be easily read.
5.

**Q 2.** What problems have you experienced or know others have experienced in generating accurate minutes?

(Possible student responses)

1. Can't read my writing after I have taken notes.

*(continued)*

**Lesson Outline** *(continued)*

**Interest Approach** *(continued)*

2. When I first wrote the rough minutes, I understood what I wrote. But when I sat down to keyboard the minutes, I didn't understand everything that I had written; some information was missing.
3. Some minutes I've heard are more subjective than objective, e.g., "Everyone had a good time," or "Mr. Miller was angry about the discussion we held last week."
4. I could read and understand my notes, but other people couldn't follow the ideas.
5. I've heard of a secretary's losing the only copy of the minutes the club had. With the secretary's book missing, they had no record of the business they had done.
6.

**Q 3.** What do we need to know or be able to do to prevent and/or correct these problems?

(Possible student responses)

1. Where to get information about what went on during the meeting
2. What should be in the minutes
3. How to organize the information: headings and things like that
4. When to make rough drafts and how many copies to make
5. Where to keep the minutes; where to keep the copies
6.

## II. Presenting the Lesson

**Question 4** **Four-Question**

**What specific information are we lacking concerning what we said we need to know and/or be able to do?**

(Review the importance of minutes of the meeting and present what is included in the minutes. Use supervised study where needed. Write answers on chalkboard.)

A. Who takes minutes

1. Minutes must be kept as the official record of what took place at the meeting.
2. The secretary of the group is responsible for taking notes at the meeting and writing them in minutes format.
3. After the meeting, it is the secretary's responsibility to keyboard the minutes.

B. Items included in the minutes

1. Group name
2. Time
3. Date
4. Place of meeting
5. Presiding officer
6. Persons attending
7. Approval of previous meeting's minutes
8. Treasurer's report
9. Committee reports
10. Old or unfinished business
11. New business
12. Adjournment
13. Secretary's name

C. Format of the minutes

1. Minutes should be neat and organized for easy reading and reference.
2. Side headings should be used, not only to improve appearance, but also to help the reader find necessary information quickly.
3. There should be three to five spaces between the longest side heading and the text of the minutes.
4. Single spacing or double spacing may be used; double spacing is usually preferred.
5. The original copy of the minutes is to be filed in a three-ring binder with the left margin adjusted as for a left-bound report.

D. Drafts and distribution of minutes

1. The minutes of the meeting are first prepared by the secretary in rough-draft form.
2. The secretary then reads and corrects the rough draft.
3. The secretary keyboards the minutes (usually only one copy).
4. The final draft is usually photocopied. Copies are distributed.
5. The minutes are read to the members at the next meeting. The original copy is kept in the group's permanent records.

## III. Helping Students Apply Concepts/Principles/Skills

Students meet in the IBE classroom. First, assign to the students to read pages 327-332 in their text, *Office Systems and Procedures*. Have them write an outline of the chapter (on the handout).

Next, hold a group discussion to analyze the questions they had about generating minutes of a meeting.

Have the students conduct a Business Professionals of America meeting. Each student is responsible for taking notes during the meeting. Then she is to generate minutes of the meeting, using her notes and covering all the business discussed in class.

## IV. Evaluating Student Learning

Using the following items, evaluate student performance with the suggested points:

| | |
|---|---|
| Student's outline and notes | 10 points |
| Notes from Business Professionals of America meeting | 10 |
| Minutes from Business Professionals of America meeting | 15 |
| Chapter quiz | 15 |
| Unit test | 50 |
| TOTAL | 100 points |

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# INSTRUCTIONAL SCHEDULE FOR RELATED CLASS AND LABORATORY

**PROGRAM:** **Applied Communications**
**UNIT:** 4 - Speaking
**SUBUNIT:** N/A

**C. Knightstep**
Instructor

## Competency/Terminal Performance Objective

4.0.2 Demonstrate effective use of three or four nonverbal messages in an oral presentation.
4.0.12 Use appropriate language within the parameters of the evaluation assessment during various speaking situations.
4.0.13 Use visual media during an oral presentation within the parameters of the evaluation assessment.

| | | | |
|---|---|---|---|
| **Learning Center** | Classroom | **Number/ Name** | **Date** Jan., week 2 |

## Strategies for Related Class and/or Laboratory (Activities, Rotation)

| | | | |
|---|---|---|---|
| X | 1. Discussion groups | | 7. Resource person(s) |
| X | 2. Lecture | X | 8. A/V presentation(s) |
| X | 3. Demonstration | | 9. Computer-aided instruction |
| | 4. Supervised study | | 10. Role playing |
| | 5. Individual research | | 11. Case problem(s) |
| | 6. Field trip(s) | | 12. Other |

## Competency Builders/Pupil Performance Objectives

N/A

## Integrating Academic Competencies

| | |
|---|---|
| Communications: | 3.0.8, 3.0.11, 3.0.13<br>4.0.2, 4.0.6, 4.0.9, 4.0.11, 4.0.12, 4.0.13 |
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

## Equipment, Supplies, and Other Resources

- filmstrip "Nonverbal, Inc."
- audio tape "Space Wars"
- 10 Calvin and Hobbes comic strips to pass around

## Evaluation/Performance Assessment

| | | | |
|---|---|---|---|
| X | 1. Written quiz | | 6. Completed project |
| X | 2. Oral quiz | | 7. Peer evaluation |
| X | 3. Instructor observation | | 8. Lab peer supervisor evaluation |
| | 4. Practice test | | 9. Written report(s) |
| | 5. Written unit test | | |

**Eastland Career Center**
**Applied Communications**

| | |
|---|---|
| **Four-Question**<br>(Problem-Solving Technique) | **Christina Knightstep**<br>(Instructor) |

# I. Preparing to Teach

| | |
|---|---|
| UNIT: | 4 - Speaking |
| SUBUNIT: | N/A |

**Competency/Terminal Performance Objective**

4.0.2 Demonstrate effective use of three or four nonverbal messages in an oral presentation.
4.0.12 Use appropriate language within the parameters of the evaluation assessment during various speaking situations.
4.0.13 Use visual media during an oral presentation within the parameters of the evaluation assessment.

**Competency Builders/Pupil Performance Objectives**

N/A

**Integrating Academic Competencies**

Communications:

| | |
|---|---|
| 3.0.8 | Draw inferences and/or conclusions. |
| 3.0.11 | Evaluate nonverbal messages. |
| 3.0.13 | Recognize propaganda and other persuasive ideas. |
| 4.0.2 | Use nonverbal messages. |
| 4.0.6 | Organize presentation. |
| 4.0.9 | Give formal and informal talks and speeches. |
| 4.0.11 | Demonstrate techniques of speech delivery. |
| 4.0.12 | Use appropriate language. |
| 4.0.13 | Use visual media. |

| | |
|---|---|
| Math: | N/A |
| Science: | N/A |
| Safety: | N/A |

**Equipment, Supplies, and Other Resources**

- filmstrip "Nonverbal, Inc."
- audio tape "Space Wars"
- 10 Calvin and Hobbes comic strips to pass around

**Present Situation**

The class consists of law enforcement, cosmetology, and machine trade students. They have limited knowledge of identifying and interpreting nonverbal messages.

**Lesson Outline** *(continued)*

**Interest Approach**

(Place questions and student responses on chalkboard.)

**Q 1.** How important is it to be able to recognize and interpret nonverbal communication?

(Possible student responses)

1. Officers need to identify suspicious behavior.
2. Cosmetologists need to identify the "real" thoughts and opinions of their clients.
3. In the business world, all employees need to identify nonverbal messages of customers, bosses, and coworkers.

**Q 2.** What problems are associated with reading nonverbal messages?

(Possible student responses)

1. Some nonverbal clues are ambiguous.
2. Interpretation of nonverbal messages can vary from one culture to another.
3. The whole picture must be considered, not only one message, when several are shown.

**Q 3.** What do we need to know and/or be able to do in order to solve and/or prevent these problems?

(Possible student responses)

1. Consider the "whole picture" before drawing conclusions.
2. Be aware of all possible meanings associated with the nonverbal message.
3. Consider cultural differences in nonverbal messages.
4. Reserve judgment; don't be too quick to judge.

## II. Presenting the Lesson

**Question 4**

**Four-Question**

**What specific information are we lacking concerning what we said we need to know and/or be able to do?**

1. The different zones involved in personal space (proxemics)
2. The difference between a signal and a gesture
3. The general meaning attached to specific nonverbal messages such as –
    - steepling
    - touching face while speaking
    - touching forehead
    - pointing finger
    - sitting at 90° angle
    - sitting across from
4. The need to consider the entire picture before forming an opinion or drawing a conclusion

## III. Helping Students Apply Concepts/Principles/Skills

First, show the filmstrips identifying the different types of nonverbal communication and the general interpretation of them. Next, pass around eight Calvin and Hobbes cartoon clippings. Ask the students to identify the basic emotion/action the character is displaying by listing two or three nonverbal clues.

## IV. Evaluating Student Learning

Give the students a quiz in which they are to define basic nonverbal communication terms and read the nonverbal messages of an illustration.

Have students give a short demonstration speech. Evaluate them on their use of nonverbal messages such as purposeful movements, signaling vs. gesturing, eye contact, and proxemics.

## Summary of Four-Question Interest Approach

### Interest Approach

The interest approach in the **Four-Question** problem-solving technique is based on student responses to the first three questions. Through their participation in responding to these questions, students develop an understanding of the importance of the lesson to them. Experiences concerning the topic are shared, problems identified, and skills/attitudes/understandings are identified that are needed to prevent these problems from happening again, or to correct them now.

**Question 1. How important is _________?**

This question helps students understand what their lives would be like without the object of the lesson. A paraphrased example of this question is: "What would we **not** be able to do if we didn't have hydraulic systems?"

**Question 2. What problems have we had with _________?**

Getting students to share the problems they have had (or the problems others have had or the problems they anticipate) with the item being discussed makes the lesson a personal experience for each student. They have "ownership" of the lesson. This question, with question 1, helps answer the student's question, "Why should I learn what you're trying to teach me today?"

**Question 3. What do we need to know or be able to do to solve or prevent these problems?**

Student answers to this question provide the lesson content outline. These "things we need to know" usually correlate closely with the competencies/competency builders found in your course outline and sequenced course outline in your program's course of study. Remember that these competencies are the student performances in your lesson's performance objectives.

You will need to expand, divide and/or condense the various "things to know" when actual teaching begins after question 4 is presented.

**Question 4. What specific information are we lacking concerning what we said we need to know and/or be able to do?**

Students do not answer this question as they do the previous three questions. This question is rhetorical - a "lead-in" question to begin the teaching of the "things we said we need to know or be able to do." This question provides continuity of thought in the problem-solving mind-set. It is your responsibility as the teacher to select, or put in sequence, the lesson content items you are about to teach. You then teach the skills, attitudes and understandings relevant to each item. Remember that you will find it necessary to expand some of the student responses given to question 3 above, and to combine or condense some. This is your professional responsibility.

## Helping Students Apply Concepts/Principles/Skills

The *application* phase of the Four-Question Interest Approach takes place throughout the teaching of the "things we said we need to know or be able to do." Depending upon the type of skills, attitudes and understanding being taught in the lesson content, students will be practicing manipulative skills as well as problem solving and/or reasoning. For example, the skill being taught could be spray painting tractors. Students would therefore practice on junk tractors before applying their newly learned skill on "good" tractors.

Application also takes place when a student applies the problem-solving technique to his/her own situation at home or on the job.

## Evaluating Student Learning

Evaluation of student learning can take place as the class progresses through the learning of the planned skills, attitudes and understandings. Evaluation can be formative (testing the amount of learning periodically throughout the lesson) and summative (testing the amount of learning at the end of the lesson).

Evaluation can be of several types: written tests, oral tests, and/or practical tests. Use the type most appropriate for the lesson's student performance objectives.